Centre for Resource Studies
Queen's University
Kingston, Ontario

Mineral Policy Update 1983

M.J. WOJCIECHOWSKI

85-1107/

MINERAL POLICY UPDATE 1983
POLICY AND PROGRAM CHANGES AFFECTING THE CANADIAN MINERAL INDUSTRY

by

Margot J. Wojciechowski

CENTRE FOR RESOURCE STUDIES
1984

ISBN 0-88757-041-0
© Centre for Resource Studies, 1984
Queen's University

FOREWORD

This study looks at federal and provincial policy initiatives and major program changes introduced during 1983. It is hoped that it will act as a useful reference work for those who are dealing with the interfaces between the Canadian mineral industry and the federal and provincial governments, and at the same time stimulate feedback and a continuing flow of information that will help to produce similar surveys of policy change in subsequent years.

The update owes much to the information and guidance provided by representatives of federal and provincial departments and agencies, as well as by officials of mining associations in several jurisdictions. The Canadian Tax Foundation has kindly consented to the use of material from several of its publications in the sections on taxation matters. While the author is grateful for the help and co-operation received, she takes responsibility for any errors of content or interpretation.

M.J. Wojciechowski
Centre for Resource Studies

CONTENTS

Foreword / iii

Summary / vi

Résumé / x

1 Introduction / 1

2 1983 in Review / 2

3 Federal Government / 3
- Introduction / 3
- Direct Investment or Equity Participation / 4
- Assistance to the Mineral Industry / 5
- Regulation / 13
- Marketing and International Trade / 18
- Taxation Matters Affecting the Industry / 19

4 British Columbia / 22
- Introduction / 22
- Assistance to the Mineral Industry / 23
- Regulation of the Mineral Industry / 24
- Taxation Matters Affecting the Industry / 24

5 Alberta / 26
- Introduction / 26
- Assistance to the Mineral Industry / 27
- Regulation of the Mineral Industry / 27
- Taxation Matters Affecting the Industry / 27

6 Saskatchewan / 29
- Introduction / 29
- Direct Investment or Equity Participation / 29
- Regulation of the Mineral Industry / 30
- Taxation Matters Affecting the Industry / 31

7 Manitoba / 32
- Introduction / 32
- Direct Investment or Equity Participation / 32
- Assistance to the Mineral Industry / 33
- Taxation Matters Affecting the Industry / 33

8 Ontario / 35
Introduction / 35
Assistance to the Mineral Industry / 35
Regulation of the Mineral Industry / 36
Taxation Matters Affecting the Industry / 38

9 Quebec / 40
Introduction / 40
Direct Investment or Equity Participation / 41
Assistance to the Mineral Industry / 42
Regulation of the Mineral Industry / 44
Taxation Matters Affecting the Industry / 44

10 New Brunswick / 46
Introduction / 46
Assistance to the Mineral Industry / 46
Taxation Matters Affecting the Industry / 47

11 Nova Scotia / 48
Introduction / 48
Assistance to the Mineral Industry / 48
Regulation of the Mineral Industry / 48
Taxation Matters Affecting the Industry / 49

12 Newfoundland / 50
Introduction / 50
Regulation / 50
Taxation Matters Affecting the Industry / 51

13 Northwest Territories / 53
Introduction / 53
Assistance to the Mineral Industry / 54

14 Yukon Territory / 55
Introduction / 55
Assistance to the Mineral Industry / 55
Regulation of the Mineral Industry / 56

Principal Written Sources / 57

Government Sources for Further Information / 59

The Author / 66

The Centre for Resource Studies / 67

CRS Publications / 68

SUMMARY OF MAJOR INITIATIVES

Federal

The federal government began negotiations with the provinces for new Economic and Regional Development Agreements, to replace the General Development Agreements which expire in March 1984. At least six provinces were also seeking mineral subagreements, the first of which was signed in November by the Manitoba and federal governments. The mineral agreements will be administered by Energy, Mines and Resources, rather than by a central agency.

The Department of Indian Affairs and Northern Development continued with its work on development of a northern mineral policy.

A new northern roads policy was approved by Cabinet which will double the federal funds available for northern resource access roads.

An agreement for assistance to the Cyprus Anvil mine was reached in 1983, with government contributing half of the costs of a $50-million advance stripping program. $19.6 million of the government's share is in the form of an interest-free loan.

Among the federal legislation and regulations under review were the Yukon Placer Mining Regulations, the Territorial Coal Regulations, Territorial Public Lands, Pits and Quarries Regulations, the Northern Inland Waters Act, and regulations respecting royalties and disposition of mineral rights in the two northern territories.

High unemployment continued to plague the mining workforce, and a number of mining operations qualified for assistance under federal job creation programs, primarily the Canada Works program and the Career Access program.

CANMET's role in mining and mineral-related research was increased in 1983, with an emphasis on long-term high-technology developments. In addition, the Short-Term Assistance Program in Research and Technology (START) program was introduced, providing $5 million over 2 years for research assistance to the mineral industry.

The Geological Survey of Canada began several new projects, including a boundaries examination program, and Lithoprobe, a deep seismic probe research program.

Passage of the Western Grain Transportation Act is expected to lead to expansion and upgrading of western rail capacity and equipment which will assist in moving minerals to west coast ports.

Regulatory agendas were introduced during the year which list proposed regulatory changes for a number of departments and agencies, including Energy, Mines and Resources.

The Foreign Investment Review Board approved six new foreign-owned mineral-related businesses during the year, as well as six takeovers of Canadian mineral firms.

The Consultative Work Group on Nonferrous Smelters was established, to provide an avenue for industry input into federal studies of the nonferrous minerals industry, smelter emissions, and possible future emission control requirements.

The MAC/EMR Subgroup on International Minerals and Metals Markets was established in 1983, and began detailed studies of Canada's mineral trade, including marketing problems and opportunities for specific commodities.

The federal budget of April 1983 introduced several changes designed to encourage mineral investment, and to extend the carry-back and carry-forward period for certain tax credits and losses.

Plans to tax housing and travel benefits of employees in northern and isolated posts were shelved indefinitely, for employment agreements in place before 12 November 1981.

British Columbia

A new publication, Guidelines for Mineral Exploration, sets out current legislation, regulations, procedures etc. for mineral exploration and development.

The Mineral Act was under review during the year and recommendations for amendments were submitted to the government by a consultant early in 1984.

Alberta

Alberta continues to place high priority on coal production and exports.

The Quartz Mining Regulation is to be replaced by the Metallic Minerals Regulation, which was in preparation over 1983.

Saskatchewan

A White Paper was tabled concerning Saskatchewan's proposed new Mineral Taxation Act, which will set various

levels of production taxes for all minerals except oil, gas and uranium. The present assessment-based land tax will be dropped.

The Key Lake uranium mining operation began production in October 1983, and preparations began for 5 new uranium orebodies at Cluff Lake. Both properties are partly owned by the Saskatchewan Mining Development Corporation.

Manitoba

A special two-year $1-million federal/provincial agreement for geoscientific studies was signed in June. The study will concentrate on the Lynn Lake area.

In November the province signed the first of the new generation of federal-provincial mineral development agreements. Manitoba's agreement will provide $14.8 million in federal funds and $9.9 million from the province over five years.

Ontario

Revisions to the Mining Act and the Mining Tax Act in Ontario were under way in 1983. A new version of the Mining Act was introduced to the house, died on the order paper, and will be further revised through 1984.

New land-use guidelines for most of the province were introduced in June. The new guidelines recommend multiple use, including mineral exploration and development, for about 80 percent of the area in 155 proposed new provincial parks.

Quebec

The Quebec government continued its policy of encouraging mineral exploration and development in the province. Several new programs were introduced in 1983: one is a grant program of financial assistance to exploration programs; a second provides grants to small companies for hiring certain types of new staff; a third provides grants designed to accelerate the rate of development of new projects.

Tax changes that benefited the industry in 1983 included a reduction in the corporate income tax rate from 8 percent to 5.5 percent, and improved investment incentives and carry-forward features.

New Brunswick

A federal-provincial subsidiary agreement will provide $15 million in federal funds and $3.75 million from the province towards development of a pilot plant for improved treatment of local ores.

Taxation of the mineral industry in New Brunswick was under review in 1983, with changes to be introduced in 1984.

Nova Scotia

Although coal remains the principal mineral product in Nova Scotia, the province continued to look at avenues for diversification and expansion in other areas, including gypsum, barite, and gold.

Newfoundland

A number of amendments to the Mineral Act and accompanying Regulations were passed in May 1983. Significant changes were made to simplify the disposition of mineral rights in Labrador.

Northwest Territories

The Government of the Northwest published a document entitled Priorities which includes views on the role of the GNWT in resource development in the territory.

Yukon

The Yukon government contributed $1 million towards the assistance package for the Cyprus Anvil mine.

In its brief to the committee reviewing placer mining regulations, the Yukon government called for legislative provision for the territory's responsibilities for nonrenewable resources and for other areas.

RESUME DES PRINCIPALES INITIATIVES

Initiatives fédérales

Le gouvernement fédéral a entamé des négociations avec les provinces au sujet des nouvelles ententes de développement régional et économique qui remplaceront les ententes-cadres de développement qui expirent en mars 1984. Au moins six provinces cherchaient aussi à obtenir des sous-ententes, les premières ayant été signées en novembre par le gouvernement fédéral et celui du Manitoba. Ces ententes minières seront gérées par le ministère de l'Energie, des Mines et des Ressources plutôt que par un organisme central.

Le ministère des Affaires indiennes et du Nord a poursuivi ses travaux pour mettre au point une politique minérale le Nord.

Le Cabinet a approuvé une nouvelle politique sur les routes du Nord qui doublera les fonds fédéraux disponsibles pour les routes d'accès aux ressources dans le Nord.

En 1983 le gouvernement a accepté de venir en aide à la mine Cyprus Anvil en s'engagement à défrayer la moitié des coûts d'un programme de découverture préliminaire de $50 millions, dont $19.6 millions sous forme d'un prêt exempte d'intérêt.

De nombreux règlements et lois fédéraux ont été passés en revue notamment les Règlements sur l'extraction de l'or dans le Yukon, les Règlements sur l'exploitation des houillères territoriales, les Règlements des terres publiques, des fosses et des carrières territoriales, la Loi sur les eaux intérieures du Nord et des Règlements concernant les redevances et la cession des droits miniers dans les deux territoires du Nord.

Un taux de chômage élevé a continué de sévir dans l'industrie minière et plusieurs compagnies minières ont eu droit à l'aide du gouvernement sous la forme de programmes fédéraux de création d'emplois, surtout de programme Canada au travail et du programme d'Accès aux carrières.

En 1983 CANMET a joué un rôle plus important dans la recherche minière et la recherche connexe, tout particulièrement dans la mise au point de haute technologie à long terme. En plus, le Service temporaire d'aide en recherche et technologie (START) a été créé. Ce programme alloue $5 millions sur une période de 2 ans à l'industrie minière pour la recherche.

La Commission géologique du Canada a entrepris plusieurs nouveaux projets, dont un programme d'examen des frontières, et Lithoprobe, un programme de recherche sur les sondes sismiques profondes.

On s'attend à ce que l'adoption de la Loi sur le transport des grains de l'Ouest mène à l'expansion et à l'amélioration du rendement et de l'équipement ferroviaires de l'Ouest, ce qui rendra plus aisé le transport des minéraux jusqu'aux ports de la côte Ouest.

Des ordres de jour ont été présentés pendant l'année sur lesquels figuraient toutes les modifications de règlements proposées pour un certain nombre de ministères et d'organismes, y compris le ministère de l'Energie, des Mines et des Ressources.

L'Agence d'examen de l'investissement étranger a approuvé pendant l'année six nouvelles entreprises à participation étrangère dans le domaine de l'industrie minière ainsi que six prises de contôle de firmes minières canadiennes.

Le Groupe de travail consultatif sur les fonderies non ferreuses à été créé pour donner à l'industrie la possibilité de contribuer leurs points de vue aux études fédérales sur l'industrie des minéraux non ferreux, les émissions des fonderies, et les éventuelles exigences futures en ce qui concerne la réglementation des émissions.

On a créé en 1983 le Sous-groupe AMC/EMR sur les marchés internationaux des métaux et minéraux. Ce groupe a entrepris des études détaillées sur le commerce minéral de Canada, notamment sur les problèmes de commercialisation et sur les possibilités pour des produits de base spécifiques.

Le budget fédéral d'avril 83 a introduit plusieurs changements destinés à encourager l'investissement minier et à prolonger la période de report de perte ou de crédits d'impôt à l'exercise antérieur ou sur les exercices postérieurs.

Les projets qu'on avait formés de frapper d'un impôt les indemnités de logement et de déplacement des travailleurs dans le Nord et dans les endroits isolés ont été abandonnés indéfiniment pour de qui est des accords de travail datant d'avant le 12 novembre 1981.

Colombie-Britannique

Une nouvelle publication, Lignes directrices pour l'exploration minérale, présente la législation, les règlements et les procédures actuels relatifs à l'exploration et à la mise en valeur des ressources minérales.

La Loi minière a été passée en revue pendant l'année et au début de 84 un expert-conseil a soumis au gouvernement des recommandations pour des modifications.

Alberta

L'Alberta continue de donner haute priorité à la production et aux exportations de houille.

Le Règlement de l'exploitation minière du quartz doit être remplacé par le Règlement des minéraux métalliques qui était en préparation pendant l'année 1983.

Saskatchewan

Un livre blanc a été déposé concernant le nouveau projet de loi sur l'impôt sur les minéraux. Cette loi fixera différents niveaux pour les impôts prélevés sur la production de tous les minéraux excepté le pétrole, le gaz et l'uranium. L'impôt actuel sur la côte foncière sera supprimé.

L'exploitation minière d'uranium de Key Lake est entrée en production en octobre 83 et des préparatifs ont été commencés pour 5 nouveaux gisements uranifères à Cluff Lake. Les deux propriétés sont détenues en partie par la Saskatchewan Mining Development Corporation.

Manitoba

Un accord spécial fédéral/provincial de 2 ans de $1 million pour des études géoscientifiques a été signé en juin. L'étude portera sur la région de Lynn Lake.

En novembre la province a signé la première d'une nouvelle série d'ententes fédérales-provinciales de développement minier. Grâce à cette entente, le Manitoba disposera à cet effet de $14.8 millions de fonds fédéraux et de $9.9 millions de fonds provinciaux pendant une période de 5 ans.

Ontario

Des révisions de la Loi minière et de la Loi sur l'impôt sur les minéraux étaient en cours en 1983. Une nouvelle version de la Loi minière a été présentée à la Chambre législative, n'a pas été mise aux voix, et sera révisée plus amplement en 1984.

De nouvelles linges directrices sur l'utilisation des terres pour la plus grande partie de la province ont été introduites en juin. Ces nouvelles lignes directrices recommandent l'usage multiple, y compris l'exploration et la mise en valeur des ressources minérales, pour environ 80 pour cent des sols dans 155 nouveaux parcs provinciaux proposés.

Québec

Le gouvernement du Québec a poursuivi sa politique d'encouragement de l'exploration et de la mise en valeur des ressources minérales dans la province. Plusieurs nouveaux programmes ont été créés en 1983: un programme d'assistance financière pour l'exploration minéral, un programme de subventions destinées à de petites compangnies pour qu'elles engagent un certain type de personnel nouveau, et également un programme de subventions ayant pour objectif l'accélération du taux de développement de nouveaux projets.

Parmis les changements fiscaux favorables à l'industrie en 1983 figuraient une réduction de taux de l'impôt sur le revenu des sociétés qui passait de 8 pour cent à 5.5 pour cent, des meilleurs encouragements à l'investissement et des meilleures possibilités de report sur les exercices postérieurs.

Nouveau-Brunswick

Une usine pilote pour un meilleur traitement des minerais locaux sera mise sur pied grâce à une sous-entente fédérale-provinciale qui alloue $15 millions en fonds fédéraux et $3.75 millions en fonds provinciaux à ce projet.

L'imposition sur l'industrie minière au Nouveau-Brunswick a été passée en revue en 1983 et des modifications sont prévues pour 1984.

Nouvelle-Ecosse

Bien que la houille soit toujours le principal produit minéral de la Nouvelle-Ecosse, la province a continué à examiner des possibilités de diversification et d'expansion dans d'autres domaines, y compris le gypse, la barytine et l'or.

Terre-Neuve

Des modifications à la Loi et aux Règlements miniers ont été adoptés en mai 1983. Des modifications considérables ont été effectuées pour simplifier la cession des droits miniers au Labrador.

Territoires du Nord-Ouest

Le gouvernement du Nord-Ouest a publié un document intitulé Priorités qui présente des idées sur le rôle du GTNO dans la mise en valeur des ressources dans le territoire.

Yukon

Une série de mesure ont été prises pour venir en aide à la mine Cyprus Anvil et la part qu'a contribuée le gouvernement du Yukon s'élève à $1 million.

Dans un exposé qu'il a présenté au comité examinant les règlements sur l'extraction de l'or, le gouvernement du Yukon a demandé une disposition législative sur les responsabilités du territoire en ce qui concerne les ressources non renouvelables et d'autres domaines.

1. INTRODUCTION

This study is a summary of the major program and policy initiatives of the federal, provincial and territorial governments of Canada in 1983 concerning the Canadian mineral industry. A minimum of detail is provided, as it is expected that readers will go to the recommended government sources for in-depth information on areas that are of particular interest.

For the purpose of this paper, the mineral industry is defined as the industrial sector engaged in production and marketing of metallic minerals, industrial minerals, coal and uranium. Oil and gas are excluded. Production refers to all the processing stages to primary metals, and includes exploration, mine development, mineral extraction, concentration or beneficiation, smelting, and refining.

Where available, a general policy statement from the appropriate minister or department introduces the sections on the respective governments. The specific programs and policies are arranged under the following headings as far as possible:

1. Direct Investment or Equity Participation
   - Crown corporations and other government agencies;
   - joint ventures.
2. Assistance to the Mineral Industry
   - direct financial assistance;
   - federal/provincial programs;
   - mining equipment manufacturing sector;
   - labour;
   - research and information;
   - infrastructure.
3. Regulation of the Mineral Industry
   - health and safety;
   - mineral rights;
   - environment;
   - foreign ownership.
4. Marketing and International Trade
5. Taxation Matters Affecting the Mineral Industry

While certain policies could be classified under more than one heading, we have tried to place each under the heading we feel to be the most relevant. Those policies involving more than one government, are, in most cases, listed under all the governments involved.

2. 1983 IN REVIEW

1983 started out as the second consecutive year of decline for the Canadian mineral industry, with continuing weak demand and falling prices affecting nearly all metals, with the notable exception of gold. The result was a continuation of layoffs, shutdowns, and other cost-cutting measures such as reductions in capital expenditures and postponements of new developments. However, about halfway through the year, a modest recovery began to take effect. The end result was a moderate increase in the total value of mineral output, of approximately $300 million (excluding fuels) on the year overall, according to figures released by EMR.[1] Metals accounted for all of the increase, with the overall value of the nonmetals remaining fairly steady as compared with 1982.

Copper had the highest dollar level of sales, at $1.3 billion, which was up in volume by 2.0 percent and in value by 9.4 percent from last year. Gold was second in value at $1.2 billion, up in volume by 9.3 percent and in value by 22.6 percent. Silver, at $500 million, was down in volume by 15.8 percent but increased sharply in value (20.5 percent) because of a strong price rise. Zinc, at $1.1 billion, rose in volume by 0.5 percent and in value by 7.8 percent. Nickel, at $766 million, showed the strongest recovery, up in volume by 37.5 percent but in value by only 27.5 percent, showing the effects of a fall in price. All other major metals fell in both volume of production and price.

Coal showed the effects of a slight fall in price; an increase in volume of 3.4 percent brought a rise in value of only 0.4 percent, for a total of $1.3 billion. The price effects for potash were even greater, as an increase in volume of 16.8 percent was accompanied by a fall of 1.5 percent in value of production, to $621 million.

Government assistance to the mineral industry over 1983 continued to stress solutions for unemployment, particularly in single industry communities, with a number of programs at both federal and provincial levels. Further responses took the form of changes in the taxation and regulatory regimes, as governments sought to streamline their systems and to ease the burdens on the beleaguered industry.

---

1. Energy, Mines and Resources Canada, Canadian Mineral Survey 1983, reprinted from the Canadian Mining Journal, February 1984.

3. FEDERAL GOVERNMENT

Introduction

Federal mineral policy initiatives in 1983 reflected a growing realization that the dependence of the Canadian mineral industry on export markets, combined with structural changes among mineral producers and consumers world-wide, calls for increased attention to the international economic environment, financial arrangements, and trading agreements. According to C.G. Miller, Assistant Deputy Minister, Mineral Policy, the federal government can assist industry in several of these areas. In an address to the Annual General Meeting of the Canadian Institute of Mining and Metallurgy in April 1983, Dr. Miller stated his belief that the federal government could assist industry by providing:

> knowledge, market intelligence, trade promotion, and improved market access. The means adopted could include both funded programs (e.g. Program for Export Market Development) and direct government services (e.g. trade commissioners). The government could also ensure that Canada's international bodies do not constrain, but rather assist, the industry's drive to optimize its market shares.

On the domestic front, government programs continued to stress such areas of assistance as job creation projects, manpower mobility and training, transportation and other infrastructure policies, and technological innovation. Negotiations with most of the provinces and with the territories were under way over the year to establish new Mineral Development Agreements, which will provide federal funding for a broad range of mineral-related activities, particularly geoscientific studies.

The issues of environmental protection, particularly acid rain, continued to receive a great deal of public attention, and were the subject of intergovernmental and industry/government consultations.

Direct Investment or Equity Participation

Cape Breton Development Corporation

The federally-owned Cape Breton Development Corporation (CBDC) has been successful at marketing its coal to international buyers. The corporation's coal export trade was about 1.5 million tonnes in 1983, and is expected to be about 3.5 million tonnes by 1990 and up to 8.0 million tonnes by the year 2000. The Crown corporation, which is the major coal producer in Nova Scotia, had a successful year, despite a predicted loss of over $60.0 million for 1983. Expansion in production is expected to continue well into future years.

CBDC began driving access declines for the proposed new Donkin mine, using the prototype 7.6-metre diameter $10-million rock tunnel borer (RTBM) developed by Lovat Tunnel Equipment Inc., with $5.5 million federal support. The RTBM is expected to speed development of this new mine and to introduce this new technology to Canadian mining.

The corporation also opened a $3.5-million training centre which is being used to teach long-wall mining methods to miners, in hopes of improving coal mining productivity. The federal government contributed a grant of $2.9 million for the facility.

Eldorado Nuclear

The new $130-million uranium refinery at of Eldorado Nuclear Ltd., Blind River in Ontario, made its first shipments of UO_3 in November 1983. The nuclear fuel feedstock is delivered to Eldorado's refinery at Port Hope, Ontario, for conversion to uranium dioxide for Candu reactors, or to uranium hexafluoride which is subsequently enriched for use in light-water reactors in use in other countries. Expansion of the Port Hope facility was also in progress in 1983.

The recently-established Canada Development Investment Corporation (CDIC), a federal Crown corporation, announced in mid-1983 that it was considering divestiture of Eldorado some time in the next year. Eldorado is a wholly-owned subsidiary of CDIC, and is primarily engaged in the mining, refining and conversion of uranium fuel for generation of electricity. All of the major holdings of the CDIC are candidates for eventual divestiture, but Eldorado, which had a profit of $9.9 million on sales of $154.00 million and

total assets of $915.2 million in 1983, may be among the first to go.

Petro Canada

Petro Canada has sold a 12-percent interest in its Monkman Coal project in B.C. to Sumitomo Corporation of Japan for $10 million. The money will be used for engineering and other development work. Production is not expected from the property until the end of the decade. Petro Canada is the operator of the project, and the other partners are McIntyre Mines and Canadian Superior Oil.

Assistance to the Mineral Industry

Direct Assistance

The April 19 budget set up a $2.4 billion Special Recovery Projects Program to accelerate selected capital projects in support of the government's economic and regional development activities. This included capital expenditures for the mineral sector.

The federal government has agreed to provide up to $15 million in assistance for the establishment of a pilot plant facility in New Brunswick, $11 million of which is to be contributed under the Special Recovery Projects Program. This new facility will be demonstrating on a semi-commercial plant scale the application of the sulphidation roast-leach process for recovery of a higher percentages of metals from bulk concentrates obtained from local ores.

Federal/Provincial Agreements

In 1983, the federal government undertook discussions and negotiations on new Economic and Regional Development Agreements (ERDAs) with each of the provinces and territories. These will replace the General Development Agreements (GDAs) which expire in March 1984. The GDAs were under the mandate of the federal Department of Regional Economic Expansion (DREE), whose responsibilities for regional development agreements have been transfered to sectoral departments as a result of the 1982 reorganization. The ERDAs for the provinces now come under the responsibility of the new Ministry of State for Economic and Regional Development (MSERD), and, for the Yukon and

Northwest Territories, under DIAND. They are umbrella agreements for more specific federal-provincial initiatives, called sub-agreements, which are administered at the federal level by the individual sector departments, such as Energy, Mines and Resources (EMR) for mineral development agreements. MSERD is to provide the overall policy coordination. At least six provinces have indicated that they consider minerals a priority, and are pursuing minerals agreements.

In November the first such mineral development agreement was announced, between Manitoba and the federal government. The $24.7 million ($14.8 million federal and $9.9 million provincial) will be used for geoscientific work in northern Manitoba, as well as in technological and economic programs related to the mineral industry, including productivity and new product development. About two-thirds of the total will be used to provide new geological information, and to improve access to such information.

In June of 1983, the federal and Manitoba governments also announced the signing of a Canada/Manitoba Interim Mineral Agreement, a special two-year $1.0 million program, consisting mainly of scientific studies of the geology of the region surrounding Lynn Lake which will furnish information which can be used by mining companies in the search for new ore bodies that would provide continuing employment for the community of Lynn Lake.

Northern Programs

Unlike the provinces, the Yukon and Northwest Territories do not hold title to the mineral resources within their boundaries. Ownership and jurisdiction have been retained by the federal government, and are exercised largely through the Department of Indian Affairs and Northern Development (DIAND). In 1983, DIAND continued with its work on the development of a northern mineral policy, which deals with mineral exploration and mining in the two northern territories. A series of 8 mineral policy issue papers has been prepared and will be released in 1984.

Agreement was reached in 1983 among the federal government, territorial governments and native groups on principles of the new land use planning process for the two territories. The actual process needs to be clearly defined and agreed upon before it can be implemented, possibly in 1984.

The federal cabinet approved a new northern roads policy in 1983 which will provide abut $100 million for

northern road construction over the next five years. The provision for resource access roads is twice the amount previously spent. The program allows for federal cost sharing for initial access roads for exploration and development, as well as for permanent access roads for the production stage of mining. Under this program, DIAND received Treasury Board approval in June for improvements to sections of the Dempster and the Carcross-Skagway Highways. The project started in July, and called for the reconstruction of 125 km and repairs to much of the remainder of the Dempster, which is the only all-weather road access to the Mackenzie Delta region. Upgrading work will be done on about 50 km of the Carcross-Skagway road. Funding for upgrading of the North Canol Highway has also been approved, and work will begin in 1984.

DIAND has been considering other means of reducing the costs of transportation for northern mines, as well as the cost of power, most of which is provided by Northern Canada Power Corporation (NCPC). To this end, the Canadian Transport Commission has been conducting an inquiry into Yukon transportation systems, with a short-term emphasis on the needs of Cyprus Anvil, and the National Energy Board held public hearings and submitted a report to the Minister of DIAND on NCPC operations and rates.

After the Cyprus Anvil mine at Faro had been shut down for nearly a year, Dome Petroleum and the federal government, in April 1983, agreed to share the costs of a $50-million 2-year advance stripping program. This program is expected to reduce operating costs by 8 percent, increase productivity by 20 percent, and improve the long-term viability of the mine, while at the same time retaining skilled employees in the area until resumption of production. Government's $25-million share will be financed as follows: $3.4 million under UIC section 38 and the federal NEED program; a $1-million wage top-up from the Yukon government, and about $19.6 million as an interest-free loan from the federal government.

The review of the Yukon Placer Mining Regulations continued in 1983. The Yukon Placer Mining Guidelines Public Review Committee was established in March, to review draft guidelines dealing with environmental controls. Public hearings were held to discuss draft water-use regulations, and guidelines to enhance the protection of fish and wildlife resources, and the environment in general. The committee will submit a report, including recommendations, to the federal government in 1984.

Among other legislation and regulations undergoing revision by DIAND and study by other related departments

(including Environment, Fisheries and Oceans, Transport, Energy, Mines and Resources, and Finance) were the Territorial Coal Regulations, Territorial Public Lands, Pits and Quarries Regulations (which will be extended to apply to offshore areas), the Northern Inland Waters Act, and regulations respecting royalties and disposition of mineral rights.

Assistance to the Mining Manufacturing Sector

The federal Export Development Corporation (EDC) signed a $10.3-million (U.S.) loan agreement with Nacional Financieri S.A., Mexico's national development bank. The loan is in support of a $12.2-million (U.S.) sale by Dominion Electric Co. Ltd. of Toronto, to Compania Minera de Cananea S.A. of Mexico. The sale involved the supply of eight grinding mills and related equipment for the expansion and upgrading of the Cananea copper mine and processing plants.

Human Resources Assistance

Employment in mining dropped an additional 17 percent in Canada in 1983, in spite of some recalls and openings. Unemployment has been a major concern of the federal government, and a number of programs have evolved to alleviate the situation of jobless Canadians. There have been as many as 12 major job programs in effect, and in 1983 these were consolidated into four programs, two of which, Canada Works and Career Access, were particularly useful to the mining industry.

Assistance under Section 38 of the Unemployment Insurance Act had been made available to mining development and preproduction activities in 1982, for workers eligible for unemployment insurance (UI) benefits. For those whose benefits were exhausted, the New Employment Expansion and Development (NEED) program was introduced. The two programs were rolled into one in 1983, under the title Canada Works. Levels of assistance were increased several times over the year, and by the end of 1983 the maximum assistance available under the Canada Works program stood at the following level:

- $240 per week basic UI (for those eligible);
- $60 per week Section 38 supplement;

- up to $125 per week, payable to the employer, to offset operating expenses related to the employment of each worker under the program;

for maximum of $425 per week per worker in federal assistance.

Although it was not specifically directed at mining, a number of mining projects qualified for assistance under one or both streams of this program, including:

- Cominco's Pine Point mine in the NWT;
- Cyprus Anvil in the Yukon;
- Brinco's Cassiar mine in B.C.;
- Brinco's San Antonio mine in Manitoba;
- Teck's Afton mine in B.C.;
- Canada Tungsten in the Yukon;
- Johns Manville in Quebec;
- SNA's mine at Thetford Mines in Quebec;
- Inco/Queenston's McBean mine in Ontario;
- Sherritt Gordon's Cargill deposit in Ontario;
- Sherritt Gordon's Agassiz property in Manitoba.

In some cases, provincial or territorial assistance supplemented the federal funds.

The federal Career Access Program provides wage subsidies to employers who provide on-the-job training to young people and others with insufficient work experience to qualify for permanent jobs. In 1983, $1 million in funding under this program was allocated to the Mining Association of Canada for the exclusive use of its member companies during a specified period. The Mining Association was given responsibility for running the program and for encouraging member companies to participate. For each intern hired for a year under the Career Access program, companies receive up to 50 percent of the intern's gross wages, originally up to a maximum of $7,500 and subsequently increased to $10,000. In the MAC pilot program, graduates in 20 mining-related professions or skills were eligible, provided they had finished school and were unemployed.

A small employment program aimed specifically at mining was organized by the Department of Geology of Laurentian University, Sudbury, in cooperation with the Geological Survey of Canada. Together, they sponsored the Sudbury Timmins Algoma Mineral Program (STAMP) in the latter part of 1983. The program was financed by contributions from federal MPs in the area, and by the Canada Works Program. STAMP was aimed at developing improved geological information in the region. The program, which employed some 60 persons, continued into May 1984.

Research Assistance and Technology Transfer

This was another area of expanded federal assistance to the mining industry in 1983, with significant increases for example to the 1983/84 estimates for mineral development and earth physics (8 percent), minerals technology (10 percent) and surveys and mapping (13 percent). However, the remote sensing and Geological Survey of Canada budgets were cut by 15 percent and 3.5 percent respectively.

The federal government announced in May 1983 that the Canada Centre for Mineral and Energy Technology (CANMET) would play a greater role in mining, minerals, and metals research and development. CANMET, the technological research arm of EMR, will place a long-term emphasis upon improved efficiency and productivity, particularly from the use of high technology developments. CANMET was also given the role of implementing the Short-Term Assistance in Research and Technology (START) program. START was set up as a two-year $5-million program that helps industry to make use of CANMET's facilities and technological expertise to solve technology problems during the current economic difficulties.

Major features of START are the accelerated R and D, both by CANMET staff and through contracts, in areas including potash mining, hydrometallurgical and biotechnological processing of ores, foundry process control, and the renewed emphasis on transfer of CANMET technologies such as computer simulation of ore processing and nondestructive testing.

Under EMR's Research Agreements Program, 34 universities and other research centres across Canada received grants for 1983/84, totalling $1.4 million, to conduct 151 research projects. Approximately 34 percent of the funds were to be used for energy research, 47 percent for earth sciences and 19 percent for minerals research.

More than 40 earth scientists and technicians spent two months in the spring of 1983 conducting a study of an undersea mountain range, the Alpha Ridge, in the Arctic Ocean. The Canadian Expedition to Study the Alpha Ridge (CESAR) was located just 500 km south of the true north pole. The CESAR expedition, led by the Earth Sciences Sector of EMR, included federal government specialists as well as scientists from universities in Canada and the USA. The Canadian Forces provided support by building the CESAR basecamp and airfield.

In spite of its budget cuts, the Geological Survey of Canada (GSC) began several new programs in 1983, including the $21-million boundaries program, which over several

years will examine a number of contentious offshore boundary areas between Canada and the United States, and Canada and French possessions. One of the areas lies in the Straits of Juan de Fuca, where GSC divers first identified 'black smokers', or underwater vents, pouring out sulphides onto the ocean floor. The vents, which are of scientific and potential commercial interest, are in an area claimed by both Canada and the United States.

Lithoprobe, a deep seismic probe research program, was also begun in 1983 and is expected to continue until 1988. The project is designed to give greater understanding of geological origins and concepts by examining much greater depths than have been studied to date. Much of the research will be conducted by university scientists, as well as scientists from EMR, with financial support from the GSC and the National Sciences and Engineering Research Council. Approximately $1 million was budgeted for planning and preliminary investigations in the first year of operations. Seismic techniques will be used for the next phase of studies, beginning in 1984, and by the final year it is expected that a deep drilling program will be conducted. Areas selected for investigation include Vancouver Island (oceanic plates), the Kapuskasing uplift, Newfoundland, the southern Cordillera, the Abitibi Belt, and possibly the Grenville Front, the Sudbury Basin, and a section of the Churchill province.

With the help of a grant from Ontario's BILD program, the airborne gradiometer developed by GSC was put into commercial use by Kenting Earth Sciences Ltd. in 1983. In development over a period of 25 years, the gradiometer was first tested extensively in 1980. These test results led directly to the discovery of several new deposits in the Val d'Or area which have since been developed by Soquem, a Quebec Crown corporation. The gradiometer provides much greater detail than previous methods of airborne surveying, and is an example of government-to-industry technology transfer.

Also in 1983, Canada received the first image data from Landsat-4, the newest U.S. remote-sensing satellite, at Saskatchewan's Prince Albert Satellite Station. The Canada Centre for Remote Sensing, a branch of EMR, receives data from Landsat-4 under the provisions of a Canada-USA agreement. Scientists in both countries are working on processing methods that will make the imagery particularly useful for resource management.

In the fall of 1983, Canada agreed to a $17.9-million grant to Thailand to help develop its mineral resources. Of this, $13.0 million was to provide Canadian technical know-

ledge and training while $4.9 million was to upgrade Thailand's Landsat satellite station, opened in September 1982, to help improve identification of mineral and petroleum deposits.

Canada also signed an agreement with the USA in 1983 for participation in a program of ocean drilling. The drilling phase is to start in late 1984, and plans are underway for research off Canada's east and west coasts in order to provide more detailed knowledge of seabed mineral deposits and hydrocarbon potential.

Infrastructure Assistance

Ports Canada (formerly National Harbours Board) has been engaged in extensive upgrading activities at a number of port facilities involved in handling minerals, particularly coal. Total annual export capacity from Canada's west coast coal ports at the end of 1983 stood at 43 million tons, nearly three times the actual 1983 exports. A $48-million dredging and land reclamation project at Roberts Bank in B.C. has quadrupled the land area available for port development. At Prince Rupert, $65.3 million in federal funds was invested over 1982/83 in a new $280-million coal terminal jointly owned by Ports Canada and by Federal Commerce and Navigation Ltd., a private-sector firm based in Montreal. The coal terminal, built to handle shipments from the B.C. northeast coal development, began operating in January 1984. Additional federal funds were spent in related infrastructure for the Prince Rupert facilities. At Sept-Iles in Quebec, a $36-million harbour improvement project began late in 1983, while in New Brunswick the first shipment of potash left the new $40-million Barrack Point potash terminal in October.

Amendments to the historic Crowsnest Pass Agreement, passed late in 1983 (Western Grain Transportation Act), will assure CP and CN railways of an annual federal subsidy of $658 million. This will enable the two major rail lines to expand and upgrade their existing capacity in Canada to move minerals and grain from the western provinces to tidewater. The two railway companies have agreed to invest $16.5 billion in double-tracking, terminal expansions, tunnel building, traffic systems and equipment purchases. CN has already ordered a substantial number of new cars for coal shipments.

The Minister of Transport announced in September that, following a study of federal financial support for freight in the Atlantic provinces, the federal government decided to continue to provide subsidies for both eastbound and westbound freight.

Communications

In an attempt to find solutions to some of the structural problems of the Canadian economy, the federal government created the Royal Commission on Economic Union and Development Prospects in 1982. Called the MacDonald Commission after its chairman, former federal Cabinet Minister Donald MacDonald, it is to spend up to two years crisscrossing the country holding a series of hearings to which interested groups and individuals can make submissions. It is scheduled to present an interim report in April of 1984 and a final report at the end of that year.

For the mineral industry, the MacDonald Commission represents a forum for input into future economic policies in general and on the role of the mineral sector. The opportunity was widely utilized in 1983, with diverse groups including the Mining Association of Canada, provincial mining associations, individual mining firms, Chambers of Commerce, and citizens' groups and Indian bands from mining communities across Canada making submissions.

Regulation

In May 1983, the federal government began giving early notice of proposed changes in its regulatory activities by publishing regulatory agendas, to give the private sector 'the earliest possible notice of proposed or contemplated regulatory initiatives', before final decisions are made and while alternatives are still being considered. Each regulatory agenda will be published twice yearly, in May and November, and will list the regulatory proposals of the federal department or agency issuing it. The agendas will state the problem being addressed, describe the potential regulatory action and its legal authority, and give the name, address and phone number of an official who can respond to questions. They are available from the Canadian Government Publishing Centre in Ottawa. Public response and input are encouraged.

The departments and agencies included in this initiative are:

Agriculture
Communications
Consumer and Corporate Affairs
Energy, Mines and Resources
Environment

Fisheries and Oceans
Health and Welfare
Indian Affairs and Northern Development
Labour
Transport
Atomic Energy Control Board
Canadian Radio-television and Telecommunications Commission
Canadian Transport Commission
National Energy Board (published quarterly)

Land Use

The federal government, in December of 1983, announced the revocation of a 1977 land withdrawal that had prohibited surface use and mining in a corridor 8 kilometres wide along the route of the proposed Alaska Highway Gas Pipeline through the Yukon. This corridor was replaced by a much narrower 240-metre wide easement granted to Foothills Pipelines for the future construction of the pipeline. The revocation is to become effective on 29 June 1984, at which time all the land within the corridor which is not part of the new easement will be available for disposition under the provisions of the Territorial Lands Act.

The 1983 Western Grain Transportation Act removed the $2.20/ton upper limit price for coal from the Dominion Coal Blocks in southeastern B.C. Removal of this long-standing price limit has removed one major impediment to opening up these coal deposits for commercial exploitation.

Foreign Investment

During 1983, six foreign-owned interests were given permission by the Foreign Investment Review Agency (FIRA) to open new businesses in mineral-related activities in Canada. They are:

i Centennial Minerals Ltd. of Vancouver, B.C., controlled by interests in the UK, West Germany, France and Switzerland, to engage in exploration for and development of metallic minerals;

ii B.K.K. Consulting Ltd. of Fort Erie, Ontario, owned by interests in the USA, to extract precious metals and silica from ore concentrates and to produce a proprietary ingredient to be used in motor additives;

iii Scott-Ortech Mining Ltd. of Saskatoon, Saskatchewan, wholly owned by interests in the UK, to provide consulting engineering services to the mineral sector;

iv Idemitsu Kason Co. Ltd. of Tokyo, Japan, to engage in exploration for, and development and production of, uranium, base and precious metals, out of Calgary, Alberta;

v Ardic Exploration and Development Ltd., of the USA, to explore for, develop and produce metallic minerals, out of Yellowknife, NWT;

vi Norcen Energy Resources Ltd. of Toronto, Ontario, and Marubeni Corporation of Japan to explore for, develop and produce coal, out of Calgary, Alberta.

FIRA also approved the following 6 takeovers of Canadian mineral industry firms:

i Société Générale de Belgique SA of Belgium to acquire control of Amex Inc., of Don Mills, Ontario, which explores for, develops and produces metallic minerals;

ii Baker International Corporation of the USA, to acquire control of Envirotech Canada Ltd. of Mississauga, Ontario, which sells, services and supervises the installation of underground mining and tunnelling equipment;

iii Kaiser Clay and Catalyst of the USA to acquire control of Pembina Mountain Clays of Winnipeg, Manitoba, which mines calcium bentonite clay;

iv State Farm Mutual Automobile Insurance Company, of the USA, to acquire control of Carolin Mines Ltd. of Vancouver, B.C., which explores for, develops and produces gold;

v Gold Sciences Inc., of the USA, to acquire control of Van Sea Investments Ltd. of Dawson City, Yukon, which mines placer gold;

vi Procan Exploration of Calgary, wholly owned in the USA, to acquire control of Cadillac Explorations Ltd. of Calgary, Alberta, which has a major lead-zinc-copper-silver property in the NWT.

Environmental Regulation

The Environment Protection Service (EPS) is currently undertaking and planning numerous regulatory initiatives, defined as activities which 'might lead to the creation, revision or elimination of rules directed toward the private sector for the purpose of protecting and/or enhancing envi-

ronmental quality'. These initiatives are generally related to codes of practice, guidelines and regulations designed to implement EPS's Environmental Quality Policy. There will be opportunities for consultation with the public in connection with each planned initiative.

The federal Department of the Environment (DOE) released a discussion paper in July 1983, entitled 'Environment Canada and the North'. The paper outlines DOE's role and policies concerning northern Canada and its development, and is meant to encourage response and commentary from other federal departments, territorial governments, as well as private firms, organizations and individuals.

Federal concerns with acid rain and discussions with the U.S. government on this matter continued through the year. In this context, in an agreement signed during 1983, the Canadian and U.S. governments entered into a joint program, the Captex-Cross Appalachian Tracer Experiment, to monitor emissions from plants in Ohio and Ontario in an effort to identify long-range transport patterns, resulting impacts, and relation to acid rain formation. The study was conducted over a six-week period beginning in September.

Also following on acid rain concerns, in May 1983 the federal government called the first meeting of the Consultive Work Group on Nonferrous Smelters. Established in response to industry requests, the group includes representatives from provincial governments, federal departments, industry, and labour. It provides an opportunity for industry-government communications and for input into EMR's studies which are focusing on productivity and competitive position in the nonferrous smelting industry, particularly in the light of existing and possible future environmental control requirements. A number of preliminary studies were circulated to the working group members during the year on topics including industry and commodity market overviews and forecasts, environmental issues, SO_2 abatement technology, and related government policies and programs.

The Department of the Environment has prepared a draft paper aimed at assisting provincial governments in developing a Code of Good Practice for the transportation of coal by unit trains and control of fugitive (wind blown) coal dust emitted by unit coal trains. The code will be used in conjunction with provincial permits for mine site operations.

The roasting of gold-bearing ores has been identified by DOE as a major source of arsenic emissions into the atmosphere. Arsenic has been declared a hazardous pollutant to human health and may therefore be regulated under

the Clean Air Act. Review of this issue is scheduled for completion by March 1984.

The current Metal Mining Liquid Effluent Regulations (MMLER) do not extend to problems related to cyanide wastes from gold and silver mines. Nor do they extend to total radium 226 and other radionuclides, although they do apply to dissolved radium 226. Consequently, MMLERs may be amended to apply to gold and silver mines using cyanidation, and to set limits for total radium 226 and possibly other radionuclides. Review of these issues is expected to be completed by DOE by March 1984.

The Department of National Health and Welfare has advised the Department of the Environment to take action in reducing or eliminating lead in gasoline as a prudent step to protecting human health. Revision of the current standards for leaded gasoline to reduce the allowable lead from 0.77 g/l (current permissible level) to 0.29 g/l by 1987 is being considered.

Regulation of the Uranium Industry

In September the federal government released details of its recent review of Canadian uranium export policy. A number of existing policies were reconfirmed, including encouragement of further processing in Canada, the requirement for a floor price, and continued review of export contracts by the Uranium Exports Review Panel to ensure that they are consistent with Canadian policy and are in the national interest. Among the changes proposed is the monitoring of supply on a national rather than an individual producer basis.

The Atomic Energy Control Board of Canada (AECB) has granted an operating licence to Eldorado Resources Ltd. for its new uranium refinery near Blind River, Ontario. The refinery produces uranium trioxide, the feedstock for several types of nuclear reactor fuel. In addition, several pre-start-up operations have received AECB approval at Eldorado's new plant at Port Hope, Ontario. This plant will produce uranium hexafluoride, the fuel for light water reactors.

In July 1981, five Canadian uranium producers, Denison Mines Ltd., Rio Algom Ltd., Eldorado Resources Ltd., Eldorado Nuclear Ltd., and Uranium Canada Ltd., were charged under the Combines Investigation Act with having engaged in an illegal uranium cartel which resulted in reduced competition in uranium marketing in Canada. The latter two companies were subsequently found by the

Supreme Court of Canada to be immune from prosecution because they are Crown corporations. Late in 1983, the Justice Department indicated that charges against the other three companies would be dropped as well.

The federal government approved seven export contracts for Key Lake Mining Corporation's new uranium mine currently under construction in northern Saskatchewan. These include two with Swedish electrical utilities and five with U.S. utilities, for approximately 14.5 million lb. of U_3O_8. The Key Lake mine began production in mid-1983, and employs approximately 500 people.

Marketing and International Trade

In recognition of the need for better understanding of internation economic and mineral market conditions, the Department of Energy, Mines and Resources in conjunction with The Mining Association of Canada established the MAC/EMR Subgroup on International Minerals and Metals Markets. Over the year studies were made of over-all trends in Canada's mineral trade as well as of specific marketing problems and opportunities for a number of key commodities. An inventory of market access problems for minerals and metals was also begun during the year and completed early in 1984.

Canadian government (and industry) officials participated in or observed the following international activities related to trade in minerals over 1983:

i the preparatory commission of the United Nations Convention on the Law of the Sea, which in March began its work of developing rules, regulations and procedures for the development of seabed mineral resources;

ii United Nations Conference on Trade and Development (UNCTAD) IV meetings, which began in 1983, with what appears to be a greatly reduced emphasis on international commodity agreements;

iii OECD mineral-related groups, including the Subgroup of Experts on Investment, and the Raw Materials Subcommittee of the Business and Industry Advisory Committee (BIAC);

iv the establishment of the Association of Tin Producing Countries (ATPC), which Canada did not join;

v problems with the Sixth International Tin Agreement (ITA) stemming from low demand levels and smuggling activities (Canada is a member of the Sixth ITA, which is a producer and consumer group);

vi discussions regarding the formation of an International Nickel Discussion Group for economic, statistical and marketing studies related to the international trade in nickel;

vii meetings of the International Lead and Zinc Study Group and the UNCTAD Committee on Tungsten (both have Canadian representation);

viii meetings of APEF and CIPEC, producer organizations for iron ore and copper respectively (Canada decided not to change its policy of joining only those commodity groups which include both producers and consumers);

ix a strong intervention through Ambassador Gotlieb, objecting to the departure of the U.S. Environmental Protection Agency (EPA) from 'the mainstream of scientific knowledge and regulatory approach', following EPA's announcement of its intention to propose an eventual ban on certain asbestos products (cement pipes, flooring, roofing, felts etc.), and later, a cap on production of all other products.

Taxation Matters Affecting the Industry

Corporation and Personal Income Tax

The corporation income tax rate imposed by the federal government in 1983 was 46 percent. An abatement of 10 percent has been provided to all corporations, to allow for provincial and territorial corporation income taxes. In addition, mining companies are eligible for a resource allowance of 25 percent of certain resource profits, as a deduction from taxable income. Provincial corporation tax rates vary, giving 1983 combined federal/provincial corporation tax rates for mining profits as follows:[2]

Newfoundland	- 43.0 percent
Nova Scotia	- 38.3 percent
New Brunswick	- 37.5 percent
Quebec	- 31.1 percent
Ontario	- 36.3 percent
Manitoba	- 38.3 percent
Saskatchewan	- 37.5 percent
Alberta	- 35.3 percent
Northwest Territories	- 34.5 percent
Yukon Territory	- 34.5 percent

2. Price Waterhouse, Canadian Mining Taxation, Toronto, 1983, p. 11. These rates take the provincial abatement and the resource allowance into account.

The federal budget of 19 April 1983 proposed several changes which will be of benefit to the mineral industry. A major change involved permitting tax payers to deduct earned depletion from any income source (rather than just from resource income) up to 25 percent of the taxpayer's income. This will help to raise capital for joint ventures, joint explorations, and limited partnerships.

An investment tax credit makes investors in new issues of common shares from Canadian corporations eligible for a tax credit of up to 25 percent of the purchase price. This is made possible by allowing corporations to pass unused investment tax credits to investors for shares issued after 30 June 1983 and before 1 January 1987. The carry-over period for credits earned after 19 April 1983, is extended to seven years. Credits earned in 1983 are eligible for a two-year carry-back and those earned after 1983 are eligible for a three year carry-back. For investments made after 19 April 1983, the credit is fully deductible against federal taxes payable in the year. For qualifying investments made in the period from 20 April 1983 to 20 April 1986, the investment tax credit gives tax refunds if no taxes are payable by the corporation. The refundable credits are based on 40 percent of the unused tax credits for individuals or Canadian controlled private corporations who qualify for the small business deduction, and on 20 percent for other taxpayers.

Losses from business, property and employment are eligible for a three-year carry back period and a seven-year carry forward period, rather than the previous one and five years. For 1984, net capital losses may be carried back two years; after 1984 the carry back will be three years. The extension of carry-back and carry-forward periods is particularly useful to an industry such as mining, with long lead-times before revenues are realized, and with depletion and other resource-related allowances.

The investment tax credit on eligible R and D capital and current expenditures is increased by 10 percentage points, and the 50-percent additional tax (on expenditures in excess of the three-year mining average base) previously available for R and D was repealed. Outside investors are eligible for a special 50-percent tax credit for funds advanced for research and development where the R and D performer foregoes his tax deductions and investment tax credits.

In December of 1983, the federal government dropped its plans to undertake taxation of housing and travel benefits of employees in northern and isolated posts, where the benefits are received pursuant to an employer-employee

agreement in place prior to 12 November 1981. Benefits received by other employees are subject to certain maximum amounts, indexed to inflation.

Mining Taxation

Direct taxation of the mining industry by the federal government is limited to the Yukon and Northwest Territories. In the Yukon, under the terms of the Yukon Quartz Mining Act, annual royalties are paid by mines with annual output exceeding $10,000 in value. The rates range from 3 percent to 6 percent of annual profits, and for profits in excess of $10 million, one percent is added for each additional $5 million. There is no upper limit.

The Yukon Placer Mining Act imposes a royalty of 2.5 percent of the value of all gold dust and bar shipped from the Yukon. For this purpose, gold is still valued at $15 per ounce.

In the Northwest Territories, under Canada Mining Regulations, there is a three-year tax holiday on royalties for new mines. After 36 months of production, for mines with output exceeding $10,000 annually, royalties ranging from 3 percent to 6 percent of annual profits are imposed, with an additional 1 percent for each $5 million of profits exceeding $10 million, but not exceeding a maximum rate of 12 percent. Incentives are offered for processing and preproduction expenses within the NWT.

There were no changes in federal royalty rates in 1983.

4. BRITISH COLUMBIA

Introduction

Although total value of output was up slightly, British Columbia's mining industry recorded another grim year in 1983, following the $151 million loss in 1982. A key factor in 1983 was the decline in coal profits which had provided much of the revenues in 1982. Thermal coal prices were depressed by the recession, by low-cost South African competition, and by low prices for crude oil. Metallurgical coal markets, largely in Japan, suffered as steel-makers in that country continued to face increasing competition from South Korea and Taiwan. Nevertheless, coal will likely remain the province's leading mineral, with the completion of four new mines that will more than double the province's productive capacity to almost 25 million tonnes per year.

Two of these new developments, Crows Nest Resources, owned by Shell Canada Resources Ltd., and Greenhills, owned by Weststar Mining Ltd., are located in southeastern B.C., in the well-established Crow's Nest coal field. The other two, Quintette Coal Ltd., controlled by Denison Mines Ltd., and Bullmoose Coal Inc., controlled by Teck Corporation, are located in the newer Peace River coal field in northeastern B.C. Quintette is the largest of the new developments, having a capacity of 5 million tonnes per year, which it hopes to reach by 1985; Bullmoose at 1.7 million tonnes per year is second in size. Both mines are partly owned by Japanese companies (38 percent for Quintette and 10 percent for Bullmoose), with whom they have 15-year contracts to provide metallurgical coal for use in steel production.

Low demand and prices for both copper and molybdenum continued through most of 1983. All three of the province's molybdenum mines were closed by mid-year; one is closed permanently, and the other two are not expected to reopen until late in this decade at the earliest. Molybdenum production, partly as a by-product of copper production, is expected to be less than 10.5 million kilograms, down from 14.7 million in 1982.

Among copper producers, the Brenda mine shut down in September 1983 and announced its intention to re-open in May 1984, while the Granisle mine closed in mid-1982 and remained closed. The Bell mine, while closed, embarked upon a stripping project; the Gibraltar mine was operating from a low grade stockpile, with half its employees on layoff. Copper mines with gold content fared better because

of the firm gold price, and both of the Vancouver Island mines were kept in operation, while Afton closed at midyear with plans to reopen early in 1984. Total copper production was estimated at 286 million kilograms, compared to 280 million in 1982. Total gold production was estimated at 8.4 million grams, up from 7.7 million in 1983.

Lead prices were very low for most of 1983, zinc improved over the year, while silver held steady. Cominco, the major lead-zinc producer, lost money most of the year and, although its $210-million electrolytic zinc plant in Trail was opened, work on a new $300-million lead process upgrading plant remained under review. Zinc production in the province increased to an estimated 89.3 million kilograms, compared to 75.2 million in 1982. Silver production fell to an estimated 411 million grams, from the 1982 level of 500 million, with lead production rising to an estimated 107.5 million kilograms, as against 83.7 million in 1982.

Assistance to the Mineral Industry

The provincial government provided major assistance to the northern B.C. mining industry in general, and to the northeastern coal developments in particular, in the form of infrastructural expansion. Major B.C. expenditures involve the construction of a rail link from the northeast to the new coal terminal at Prince Rupert, as well as highway and townsite facilities.

During 1983, the Provincial Cabinet Committee on Economic Development directed an inter-Ministry Task Force to investigate the resource potential of British Columbia's northwest region and to undertake infrastructure planning. The study looks at viable options for infrastructure development and for social and environmental issues, and represents the government's effort to encourage private investment in mineral development in the northwest region.

Other assistance to the industry in 1983 was mainly in the form of job creation programs, funded jointly by the federal government and B.C.'s Community Recovery Program. Teck Corporation's Afton mine resumed pre-startup work in early May, after a ten-month closure, with the help of this funding. Brinco Mining Limited employed 125 mine workers for 17 weeks in pre-production waste removal at its mine in Cassiar under a job creation program.

Regulation of the Mineral Industry

The government issued its new Guidelines for Mineral Exploration, setting out requirements for exploration in B.C. The publication describes current legislation, approval procedures, and the guidelines for exploration, reclamation, road construction, drilling and trenching, underground development, and revegetation methods. Along with its companion, Guidelines for Coal Production, it replaces the earlier Guidelines for Coal and Mineral Exploration.

The Ministry of Energy, Mines and Petroleum Resources has been reviewing the province's Mineral Act. A consultant's report on the Mineral Titles branch was submitted in May 1983, and the branch subsequently purchased a new computer for handling records and maps. A second consultant's report, with recommendations on amendments to the Mineral Act, was submitted early in 1984.

Taxation Matters Affecting the Industry[3]

Corporation Income Taxes

British Columbia corporation income tax rates for 1983 were 16 percent, with the exception of small businesses, which pay only 8 percent. The rates were unchanged from 1982.

Mining Taxation

Mining income in British Columbia is taxed under the Mineral Resource Tax Act (17.5 percent on income in excess of $50,000 derived from base metal mining in the province) and the Mining Tax Act (15 percent on mining income in excess of $50,000 on coal, sand and gravel, and some industrial minerals)

Royalties are imposed on minerals derived from Crown land. The Mineral Act and regulations specify royalty rates for minerals other than coal, sand and gravel, and set out fees for recording mineral claims. The Coal Act sets a roy-

3. Information on the current corporation and mining tax regimes for the provinces and territories is drawn from Canadian Tax Foundation, Provincial and Municipal Finances, 1983, Toronto, 1983, and Price Waterhouse, Canadian Mining Taxation, Toronto, 1983.

alty rate of 3.5 percent of the net minehead value of coal sold, and also prescribes fees for licences and rentals.

The Mineral Land Tax Act imposes taxes ranging from $.62 per hectare, to a maximum of $4.94 per hectare plus an additional tax of 12.5 mills on the assessed value of a production tract. The rates are determined by the size and status of the holdings.

There were no changes in the provincial mineral tax regime in 1983.

Budget Changes

The 1983 provincial budget announced abandonment of a previously planned 60-percent increase in the water rental fee (which forms part of the price of electricity), in favour of an indexing formula resulting in an increase of about 15 percent. Thus, electricity costs to the mining industry in B.C. rose, but by about $2.5 million per year instead of approximately $10 million per year.

5. ALBERTA

Introduction

Exploration activity in Alberta for both coal and metallic minerals continued to decline in 1983, as a result of the general economic decline. In metallic minerals, the only exploration activity involved placer gold.

On the production side, there are no base metal mines in the province. Gold placer activity remained comparable to the 1982 level ($161,000), which was down considerably from 1981. Production of sulphur, a by-product of natural gas production, dropped slightly from 1982 as a result of lower demand for natural gas.

The recession affected thermal coal production, not only on the export front but also for sales to provincial power utilities, and production fell from 3.27 million tonnes in 1982 to 2.51 million tonnes. Both Transalta Utilities Corporation of Calgary and Alberta Power Limited of Edmonton were seeking to defer startup of new power generation because of lower electricity demand. For metallurgical coal, production increased overall, as the Gregg River Resources mine, 40 percent owned by Japanese companies, began production in April. This is the first new mine in Alberta in 10 years to produce metallurgical coal for export. Production of metallurgical coal rose from 3.53 to 4.58 million tonnes, although the established metallurgical coal producers suffered production cutbacks of 20 to 50 percent, in some cases accompanied by price cuts. For the longer term, however, the coal industry remains optimistic.

In the throne speech opening Alberta's 20th legislature, the Alberta government stated that it continues to place high priority on maintaining and expanding markets for Alberta's coal reserves. A task force has been established by the Alberta government to assess the economic situation at the coal-mining community of Grand Cache, and the government has already decided to improve highway connections in the region. A recent study by the Alberta Energy Resources Conservation Board anticipates substantial economic development in the Hinton and Edson areas of Alberta by 1990 as a result of coal developments in the region. A new highway and a new community are recommended to facilitate the industry's expected growth.

Assistance to the Mineral Industry

During the year, the Geological Survey of the Alberta Research Council began work on a pilot study to develop a methodology for determining the suggested source of placer gold in Alberta, the preglacial 'channel-fill' gravels. Gold is presently produced in Alberta in conjunction with sand and gravel operations.

Regulation of the Mineral Industry

Throughout the year the Metallic Minerals Regulation was developed, in consultation with the Alberta Chamber of Resources, to replace the current Quartz Mining Regulation. At year-end the new regulation was in the final stages of preparation.

The Alberta government announced in the throne speech that it intends to propose amendments to the Land Surface Conservation and Reclamation Act, including provisions regarding topsoil conservation.

In the Hinton area, Manalta Coal was granted a development permit for a surface mine, and Esso minerals has approval-in-principle for its Hinton East property. A coal processing plant has also been approved. Licences have also been granted to Smoky River Coal Ltd. and to Transalta Utilities, to develop new sections within their mine site areas at Grande Cache and Highwater, respectively.

Taxation Matters Affecting the Industry

Corporation Income Tax

Alberta's corporation income tax rate in 1983 was 11 percent, unchanged from 1982. Small businesses paid a rate of 5 percent.

Mining Taxation

Mining income per se is not taxed in Alberta. Royalties are levied under the Mines and Minerals Act and its regulations on minerals derived from Crown lands at the following rates: coal, from a minimum of 1.25 percent ad valorem for the small producers in their first year of production, up to an average of one-third of profits; gold, silver, copper,

lead, zinc, and other quartz minerals, 12.5 percent ad valorem; salt and sodium sulphate, 45 cents per tonne; other industrial minerals, various rates per unit of weight or volume.

The Mines and Minerals Act and the Coal Conservation Act specify fees payable for leases, licences, and permits etc.

6. SASKATCHEWAN

Introduction

Potash production continued at depressed levels in 1983, with the industry operating at between 50 and 60 percent of capacity. This was due to a number of factors: a wet spring which hampered fertilizer use in the USA; the U.S. Payment in Kind Program, which caused reductions in acreage planted; international debt problems, especially in Latin America, which reduced purchases; and aggressive competition from Europe, Israel and Jordan. As a result, average prices fell to about $106 per tonne from a high of over $156 in 1981, and several plants were forced to shut down for part of 1983.

Uranium output fell 20 percent in 1983, but is expected to increase to 2.4 times the 1983 levels in 1984, with expansions at Cluff Lake and Rabbit Lake and new operations at Key Lake in production. New discoveries expected to proceed to development are Cogema's Cigar Lake deposit, and the Canoxy/Inco orebody at MacLean Lake. While exploration for uranium has declined since 1980, base and precious metals exploration increased in 1983. Of about $35 million spent during the year, 25 percent was evenly divided between base and precious metals. The gold mine of Flin Flon Mines Limited, the first new gold mine in the province in four decades, was readied for production. Coal production increased slightly, with provincial demand more than taking up the slack from reduced sales to Manitoba and Ontario.

In June 1983 the government tabled a White Paper describing a proposed new Mineral Taxation Act which will levy production taxes on all minerals (excluding oil, gas and uranium), and which will replace the present assessment-based freehold taxes, or land taxes. The new system is expected to take effect for coal in January 1984, to be followed by renegotiation of the Potash Resource Payments Agreements which expire in June 1984. The new act will incorporate a range of regimes for various minerals.

Direct Investment or Equity Participation

The Potash Corporation of Saskatchewan (PCS) announced in 1983 that its subsidiary, PCS Mining, will construct a demonstration plant for a new production process at its Cory Division plant. The new process (the Glaserite pro-

cess) utilizes two Saskatchewan minerals (KCl and Na_2SO_4), as feedstock, and produces sulphate of potash, or potassium sulphate, (SOP). A full-scale plant will follow, possibly as a joint venture, if the process proves to be feasible. There are at present no Canadian producers of SOP, a potassium-related fertilizer product.

In 1983 PCS postponed all its planned expansion projects except for that at the Lanigan mine, where the world's largest underground continuous mining machine, the 'Orebiter', was put into use.

Negotiations between PCS and the People's Republic of China were under way during 1983, concerning a possible sale of equity in the Lanigan operation.

The Key Lake uranium mining operation, 50-percent owned by the provincially-owned Saskatchewan Mining Development Corporation, came into production in October 1983, and should reach full capacity by the end of 1984. The project came on stream close to its original schedule and slightly under budget, but has encountered serious grinding problems due to the clay content, which is higher than anticipated.

Preparation work began in 1983 to bring on stream five new uranium orebodies of the Cluff partnership, which is shared 80 percent by Amok Limited and 20 percent by the Saskatchewan Mining Development Corporation (SMDC). SMDC and Seru Nucléaire (later Cogema Canada) announced their major discovery at Cigar Lake (near Waterbury Lake), on which development is expected to proceed.

Regulation of the Mineral Industry

The Saskatchewan Environment Department approved Cluff Lake Mining's Phase II proposal and environmental impact assessment report.

A surface lease agreement between the Saskatchewan government and Eldorado Resources was signed in March 1983, for the Collins Bay 'B' orebody which will provide feed for the Rabbit Lake mill. The agreement also incorporates guidelines for environmental protection, health and safety of workers, and development of economic and employment opportunities.

The Saskatchewan Environment Department, in a submission to the Manitoba Clean Environment Commission, asked that Hudson Bay Mining and Smelting Limited be required to reduce the sulphur dioxide emissions from its Flin Flon, Manitoba, smelter to levels acceptable to both Manitoba and Saskatchewan standards. The sulphur dioxide

levels in Saskatchewan communities near Flin Flon regularly surpassed those allowed for provincial air quality standards.

Taxation Matters Affecting the Industry

Corporation Income Tax

The corporation tax rate for Saskatchewan was 14 percent in 1983, unchanged from 1982. Also unchanged was the rate for small business, at 10 percent.

Mining Taxation

Under the Mineral Taxation Act, a mineral land tax is payable on coal, at a rate of 108 mills per dollar. According to changes proposed in 1983, the land tax is to be replaced by a production tax in 1984.

Taxes on potash are levied under the Potash Resource Payments Agreements, according to a formula based on production, potash prices, and net profits. The agreements expire in 1984, and are being renegotiated.

Royalties on mineral production from Crown lands are fixed by the Mineral Resource Act. Rates include the following:

- potash, 4.25 to 9 percent of the value of production, depending on the potash content of the ore;
- uranium, 3 percent of the gross value of sales plus a graduated royalty based on profitability, up to maximum of 50 percent;
- coal, 15 percent of the minehead value;
- gold, silver, base metals, and a wide variety of other minerals not specified elsewhere, 12.5 percent of annual income, exclusive of processing profits.

The Mineral Resources Act also sets out the schedule of fees for leases and permits.

7. MANITOBA

Introduction

After two consecutive years of decline and associated production shutdowns and employee layoffs, Manitoba's mining industry showed a modest improvement in 1983. The value of metallic mineral production in 1983 was approximately $414 million, up from the $353 million of 1982 but still below the record $665 million of 1980. While the province's mining industry continues to struggle with low market demand and lacklustre metal prices, it is anticipated that 1984 will show greater stability of operations.

During 1983, Inco resumed development on the $170-million Thompson open pit nickel mine which had been suspended at the peak of the recession. The first phase is scheduled to be brought into production in 1986 and will replace production from the Pipe open pit which will be depleted by then. In addition, Hudson Bay Mining and Smelting which operates several copper and zinc mines in the Flin Flon-Snow Lake area, and which along with Sherritt Gordon Mines is a major producer of copper and zinc in the province, officially opened the Trout Lake base metal mine and resumed development at the Rod mine, a copper-zinc prospect.

Continuous production was maintained at Sherritt Gordon's Fox and Ruttan mines during 1983, in contrast to a four-month production shutdown in 1982.

North America's only tantalum mine, operated by Tantalum Mining Corporation of Canada Limited, remained closed during 1983 because of depressed market conditions due to high inventories and poor demand. Brinco Mining Limited closed the San Antonio gold Mine at Bissett during 1983 because of lower than expected grades of ore.

Provincial production of industrial minerals recorded a 4.7-percent decline in value to $92 million, as continuing weakness in nonresidential construction demand offset improvements in demand from the housing sector.

Direct Investment or Equity Participation

The provincial Crown corporation, Manitoba Mineral Resources (MNR), devoted 70 percent of its 1983 budget to exploration programs in the Lynn Lake area, and proposed a joint venture to Sherritt Gordon for overall exploration of base metal potential on Sherritt's properties, as part of the

governments efforts to ensure a continuing economic base for the community of Lynn Lake.

The Trout Lake mine which opened in 1983 is a government/private-sector joint venture development involving Manitoba Minerals Resources Ltd., Hudson Bay Mining and Smelting, and the Scandinavian Minerals Syndicate.

Assistance to the Mineral Industry

In June of 1983, the federal and Manitoba governments announced the signing of a special two-year $1-million interim mineral agreement for geoscientific studies of the region surrounding the community of Lynn Lake. The studies provided by the agreement include regional mapping, geochemical and geophysical surveys, uranium and lead isotope studies, basal till investigations and mineral deposit investigations. They will furnish information which can be used by mining companies in the search for new orebodies that would provide continuing employment for the community. In addition to the Lynn Lake studies, the Canada-Manitoba agreement calls for studies of deposits of chromite and rare earths throughout the province.

In November 1983, Manitoba became the first province to negotiate a mineral development agreement under the federal government's new Economic and Regional Development Agreement program. Under the Canada-Manitoba Agreement, the two governments will invest up to $24.7 million ($14.8 million federal and $9.9 million provincial) over a five-year period in a series of complementary programs to stimulate exploration, mining and mineral processing activity in Manitoba.

In August 1983, Sherritt Gordon concluded an agreement under the federal NEED program for further exploration of the Agassiz gold deposit 5 miles east of Lynn Lake. The total cost of the program is estimated at close to $2.7 million, with Sherritt contributing approximately $1.1 million, the federal government $1 million, and Manitoba $0.5 million.

Taxation Matters Affecting the Industry

Corporation Income Taxes

Corporation income taxes in Manitoba were increased from 15 percent to 16 percent in 1983. The small business rate remained unchanged at 10 percent.

Mining Taxation

There were no changes in legislation relating to the mining industry during 1983 other than a number of minor amendments made to the Mining Tax Act in Part IX of Bill 75, passed on 18 August 1983. These amendments were largely to provide clarification of the application of the act.

The Mining Tax Act imposes a tax of 18 percent on profits from mining and custom mineral processing activities in the province (including potash production), on both Crown and freehold land. A 5-percent investment tax credit is allowed, along with deductions for depreciation, exploration, and some processing expenses.

The Mines Act prescribes the fees for permits and licences for the mining industry.

8. ONTARIO

Introduction

Ontario's mining industry continued to suffer the effects of the recession for most of 1983, although conditions began to improve toward the end of the year. Uranium production, while enjoying the stability of long-term supply contracts, declined by about 6 percent. Zinc output increased slightly because of an increase in demand from the automotive and housing sectors. Gold production increased by about 12 percent from 1982, and exploration, spurred by the discoveries at Detour Lake and Hemlo, continued at fairly high levels.

Copper and nickel were the hardest hit by falling demand and prices. Copper production declined by 11 percent in 1983, following a 25-percent decline in 1982. Nickel prices rose slightly from 1982 lows; however, both Falconbridge and Inco further reduced the workforces in their Sudbury operations, and no significant rehiring is expected. Exploration was also cut drastically from 1982 levels by both firms.

The Ontario government introduced Bill 129, An Act to revise the Mining Act, for first reading in the legislature in November 1983. The Minister of Natural Resources described the changes as better meeting the needs of the mining industry for the 1980s, and reflecting the Ontario government's increasing shift from competitive to cooperative relationships among resource users. Although the bill died on the order paper, it is expected to undergo futher revision and be reintroduced as soon as possible.

In May the government announced that there would be a review of the Ontario Mining Tax Act. The review will be conducted jointly by the Ministry of Natural Resources and the Ministry of Treasury and Economics. The government is expected to distribute a position paper on the proposed amendments in order to allow public input and discussion before implementation of any changes.

Assistance to the Mineral Industry

A number of mineral-related assistance programs continued to be financed by Ontario's Board of Industrial Leadership and Development (BILD) program through 1983. This includes the Gomill program (for custom gold mills in areas of small gold deposits), drill core libraries (now available at

Sault Ste Marie, Timmins and Kirkland Lake, and coming at Bancroft, Tweed, Kenora, Thunder Bay and Sudbury), assistance to producers of industrial minerals such as granite and dolomite (administered by the Ministry of Natural Resources' Small Rural Mineral Development Program and with additional support from the federal/provincial Northern Ontario Rural Development Agreement program), and funding for Canada-Ontario Employment Development program (COED), a combination of federal NEED and provincial assistance. The COED program provides a wage supplement of 25 percent of the federal contribution, plus family protection benefits and the cost of equipment and materials. During 1983, the McBean mine was among the recipients of COED assistance.

BILD also provided over $1 million for the province's Exploration Technology Development Fund, administered by the Ontario Geological Survey. Eighteen organizations supplying services to Ontario mineral exploration firms received grants for such developments as Geotech's helicopter prospecting system, a continuous-recording VLF ground receiver from Herz Industries, and commercial exploitation of the airborne gradiometer developed by the Geological Survey of Canada.

In December a new Gomill grant was announced, providing $950,000 for the addition of new grinding and flotation circuits to Pamour Porcupine Mines' facilities at its Schumacher mill.

Regulation of the Mineral Industry

In June 1983, the Ontario Ministry of Natural Resources (OMNR) released its new land use guidelines. They comprise individual guidelines for 42 of the 47 OMNR administrative districts, and contain inventories of Ontario's resources as well as proposals for future use. The final documents will include recommendations for 155 new parks, in about one-third of which, on land comprising some 80 percent of the total, mineral exploration and development would be allowed. Guidelines for the remaining five districts have not yet been finalized, pending further proceedings of the Royal Commission on the Northern Environment.

A Mineral Aggregate Resource Planning Policy was approved by the Cabinet late in 1982. It is meant to ensure the long-term availability of aggregates, while protecting local residents and the environment from adverse effects of extraction. The main provisions of the policy are:

i to recognize formally the importance of mineral aggregate resources;
ii to protect existing pits and quarries and mineral aggregate resources through municipal official plans and zoning by-laws;
iii to require municipal official plans to provide a method and criteria for establishing new pits and quarries;
iv to permit wayside pits and quarries without requiring municipal official plan amendments;
v to require pit and quarry rehabilitation policies in municipal official plans;
vi to establish provincial mechanisms for mineral aggregate planning and management;
vii to establish both the policies and their means of implementation.

As well as being compatible with the Planning Act, the new policy is intended to complement recent and proposed legislation controlling aggregate extraction.

The Ontario government introduced changes in the provincial Mining Act into the legislature in November 1983, when an Act to revise the Mining Act (Bill 129) received first reading but died on the order paper. The legislation will be reintroduced, with changes resulting from the comments received from prospectors, exploration and mining companies, and other interested parties.

Bill 129 contained a number of housekeeping measures and several significant changes. For instance, there was provision for the submission of a summary of work carried out on unpatented mining claims. Currently, only work submitted for assessment credits becomes public knowledge. This yearly summary is designed mainly to acquaint industry and government with the nature of the work carried out on mineral claims. Companies will be asked to list only the nature and location of their work, not to disclose results.

Provision was made for a lifetime prospector's licence, with the elimination of the need for annual renewals. As a result, prospectors will no longer be faced with the possibility of losing mining claims simply because they have neglected to renew their licence.

The proposed legislation also contained new provisions for title to mineral and surface rights for mining development. The Crown's right to permit surface uses other than mining was reserved, provided mining interests are not inhibited. This measure is designed to allow for multiple use of mining lands - including recreational uses such as hunting, fishing, hiking and camping.

The system for measuring assessment work was to be changed from the current man-day basis to a dollar-expenditure basis. Assessment credits will be given for all reasonable exploration and geotechnical work, with limited credit allowed for prospecting prior to staking.

The changes are described by the government as being in response to industry requests for more flexibility in deciding what type of exploration program best suits their needs. It will also make Ontario's approach to measuring assessment work more consistent with other jurisdictions. Industry was given until 30 January 1984 to submit comments on the proposed legislation and regulations.

In December the Standing Committee on Resource Develoment (SCRD) submitted a report on the Weiler Report and the Ontario government's White Paper on Workers' Compensation. The SCRD report was published in order to solicit public comments and discussion as input to the revisions to the Workers' Compensation Act and Regulations.

Taxation Matters Affecting the Industry

Corporation Income Taxes

For corporations with taxation years ending after 10 May 1983, the general rate of corporation income tax was increased to 15 percent from 14 percent, and the rate on income from manufacturing, processing operations, and mining was increased to 14 percent from 13 percent. For taxation years straddling 10 May 1983, the tax rates will apply pro rata.

The calculation of taxable income in Ontario varies in several respects from the federal regime. For example, foreign resource properties are eligible for capital gains treatment in Ontario, in the event of disposition. Depletion is 'automatic' rather than earned in Ontario, and a 100-percent deduction is allowed for development expenses. The 25-percent resource allowance is not deductible in calculating taxable income.

Mining Taxation

Ontario has a graduated mining tax on profits. The Mining Tax Act specifies rates varying from 15 percent of mining profits over $250,000 to a maximum of 30 percent of profits over $20 million. Fiscal incentives are offered for mineral exploration, and for mineral processing, particularly in northern Ontario.

Unlike B.C., where income is taxed on a mine-by-mine basis, in Ontario income from all mines operated by the same taxpayer is generally aggregated for tax purposes. There are some exceptions: for example, for mines opened since 1974, or for major expansions, or at the discretion of the Ontario Cabinet.

The Mining Act sets fees for licences and permits, as well as a royalty and an acreage tax on certain mining lands.

Land Transfer Tax

Changes in the Ontario Land Transfer Tax Act were enacted in May 1983. Historically, nonresident individuals or companies have been required to pay a land transfer tax of 20 percent of the acquisition cost of land that is not zoned commercial, residential or industrial. The tax is payable upon registration. The new legislation now provides in addition for tax on the deemed disposition of agricultural land to nonresidents at the 20 percent rate.

Under Ontario regulation 571 R.R.O. 1980, the consideration for tax purposes on the transfer of a mining lease is the market value of the surface rights, or that part of the consideration which, in the opinion of the Minister, is 'reasonably attributable to a conveyance of the surface rights only'. This can be difficult to determine in the case of a mineral property in the early stages of exploration and development.

The land transfer tax, does not apply in the case of mineral lands unless surface rights are involved.

Retail Sales Tax

The 1983 Ontario budget introduced two changes to the retail sales tax that directly benefited the mining industry. The first was the removal of the tax from sales of Maple Leaf gold bullion coins, which has led to a significant increase in sales of the coins in Ontario. The second change expanded exemptions for production machinery and equipment, trucks weighing more than 11,778 kg, and tools and parts used for repairs, as well as consumables used by the mineral sector.

9. QUEBEC

Introduction

With the exception of the gold sector, the mineral industry in Quebec had a disappointing year in 1983. Iron ore and asbestos were the most depressed sectors, although production of most other minerals remained near 1982 levels.

One of the two iron ore mines in northeastern Quebec was completely shut down, and the other reduced production significantly. Operations for 1983 were at less than half of the province's annual capacity of 25.0 million tons of concentrate and pellets. The effects of the recession were accentuated by increased competition, both from new low-cost iron ore producers such as Brazil and Australia, and from older producers such as India and Spain, where government subsidies and currency devaluations have added a competitive advantage.

Asbestos markets have been hit badly by the recession as well as by further tightening in environmental standards in North America and Europe. Shipments of the mineral for the year were at a level of about 715,000 tons, down from close to 750,000 tons in 1982 and down considerably from the 1.3 million ton peak of 1979.

Copper production was down to 63,275 tons for 1983, compared with over 85,000 tons in 1982. Although the price of zinc rose in the latter part of the year, production was only 45,000 tons, down from the 66,000 tons of the previous year. Silver production was at 3.9 million grams as opposed to 4.1 million in 1982.

Gold production alone increased, with the province producing about 26 million grams, up 8 percent from 1982. This represents about one-third of Canadian production. With gold prices holding firm throughout the year, expansion continued in both production and exploration.

In a speech in March 1983, Pierre O. Perron, Associate Deputy Minister, Mines, commented on the importance of the mining industry to Quebec, its firm resolve to survive, and his department's intention to persuade the Government of Quebec to increase assistance to the mining sector. He visualized a two-phase program, first to aid sectors hardest hit by the current recession, and second, to encourage new development in promising areas. Mr. Perron predicted that government investments in the order of tens of millions per year over two to four years could lead to private sector investments of $1 billion to $2 billion over the same period.

Direct Investment or Equity Participation

The Société québécoise d'exploration minière, SOQUEM, a provincial Crown corporation, announced a fall in operating profits for the second year in a row, for the fiscal year ending in March 1983. Despite a rise in value of shipments of concentrate and bullion, from $40.4 million in 1981/82 to $42.33 million in 1982/83, operating profits dropped from $21.0 million to $17.0 million. The situation improved somewhat as the 1983 calendar year progressed. The Doyon gold mine, 50 percent owned by SOQUEM, was at full production for the year, benefiting from a firm gold price. The Saint-Honoré mining complex, which produces niobium pentoxide, used in steel manufacturing, was shut down from April through August; however, inventory reductions were sufficient to allow a return to full production for the second half of the year. Les Mines Seleine, a wholly-owned subsidiary, began commercial production of rock salt, and had reached full capacity by the end of the year.

Following the sale of a 50-percent interest in its wholly-owned Tourbières de Sept-Iles peat bog to Group Bélanger, SOQUEM entered into a joint venture with that firm for operation of the enterprise. The merger in mid-1983 of Mines East Sullivan, of which SOQUEM held 11.1 percent, and Groupe minier Sullivan, of which SOQUEM held 19.8 percent, gave it a total interest of 31.2 percent in the new company.

The Quebec government announced in November that it intends to transfer the resource development functions of the James Bay Development Corporation to SOQUEM for minerals and to REXFOR, another provincial corporation, for forests.

Sidbec-Normines Inc., 50.1 percent owned by Sidbec, (a provincially-owned steel company), continued to suffer losses over 1983. It was considering closing its Gagnon mine and concentrator although the associated write-offs and social costs would be enormous. Major layoffs have already occurred, but mining losses for 1983 were $67 million.

The Société Nationale de l'Amiante (SNA), the provincial corporation which took over the asbestos operations of General Dynamics of Corporation (Canada) announced a loss of $19 million in 1983 from its major property, the Thetford operation; total losses since the takeover amount to close to $50 million. In November construction began on a $5.9-million plant at Thetford Mines to produce rock wood from asbestos tailings, for residential and industrial insulation. Asbestos Corporation, one of SNA's operating com-

panies, suspended its operations at Asbestos Hill in northern Quebec in May, and they will remain closed at least until the end of 1984.

SNA decided to join with other producers in a challenge to a proposal by the U.S. Environmental Protection Agency (EPA) to ban several products containing asbestos. The items covered by the proposed EPA ban are all finished products, and the producers hold that, once manufacturing takes place, the resulting asbestos products can be handled safely, and pose no serious threat to public health when used according to manufacturers' instructions.

In order for the Société nationale de l'amiante (SNA) to participate in the SIMBOD-SNA project, which deals with research into the marketing and manufacturing of friction material (i.e. brake linings) from asbestos, the Quebec government has invested $1.4 million in new capital in SNA.

Assistance to the Mineral Industry

In 1983, the provincial government began efforts to increase mineral investment and production in the province by improving the climate for exploration and development, particularly in regions that have traditionally been overlooked. Major beneficiaries of these efforts are the southern and eastern regions, particularly the Gaspé and the Eastern Townships.

These programs follow the five-year plan of the Ministry of Energy and Resources (MER) in the Abitibi region, which was aimed at sustaining base metal mining in that area. That program included a number of shared-cost exploration agreements, and has led to private-sector development initiatives, including diversification into gold, many of which are receiving government assistance under new programs described below. The diversification and the expansion in the number of projects is expected to provide greater economic stability to the area.

The MER has introduced two new programs of assistance to the mineral industry. The first adds an unconditional grant to all preliminary exploration projects accepted for assistance. This program is aimed at both specific minerals such as copper and zinc, and designated regions such as the Gaspé and the Labrador Trough. The second program is directed at mineral production, and provides grants for hiring young graduates in the mineral sciences, as well as graduates in administrative sciences in the case of mining companies with assets of less than $25 million. The program is designed to help counter the effects of the re-

cession, which has forced firms to reduce their professional staff, and to help build up a corps of professionals who will be able to contribute to making the industry more modern, efficient and competitive.

The Ministry of Energy and Resources approved in June the grant of $12 million in subsidies to three mining companies in order to accelerate the development of mining projects in the Abitibi-Temiscamingue area, as part of a new program sponsored by the Ministere des Finances and called Assistance a l'acceleration des investissements prives. Falconbridge Copper will receive $5 million of the $45 million cost for its Lac Shortt property, towards construction of a mine access road and powerline; Kiena Gold Mines, $4 million toward construction of its $20-million concentrator near Val d'Or; and Exploration Aiguebelle, $3.0 million to assist with the construction of a $15-million concentrator at its Destor mine. The government predicts that its $12 million will generate $85 million in capital spending. Over the next three years, this form of assistance will constitute the Ministry's principal means for encouraging mining investment in the province. The MER feels there are mining prospects with the potential for up to $1 billion in investment which could receive assistance in this way.

In November the Quebec government offered $13 million in assistance to Noranda Mines Ltd., on condition that the company invest $72 million for exploration and development of the new deep orebody at Murdochville. The company accepted the government's proposition early in 1984.

In December, the MER increased its budget for geoscientific work in the Eastern Townships by 300 percent to just over $1 million. The total budget for geological and mineral exploration work in the province for the year was $13.8 million, including $.5 million for geochemical surveying in the Thetford Mines region to define exploration targets for minerals other than asbestos.

The government-sponsored Centre for Mineral Research during 1983 completed several research and development projects on behalf of the industry, charging clients an average of only 20 percent of the total cost.

For industrial minerals, a marketing study carried out in 1983 for the Ministry of Energy and Resources indicated that provincial production of construction grade granite could be increased by 60 percent, to 5.4 million square feet, by 1985. A second marketing study carried out by the Ministry concluded that provincial production of natural graphite flake could increase from the present level of 350 tonnes per day to one of 30,000 tonnes per year by the year 2000.

The provincially-owned Hydro-Quebec announced a rebate policy that will grant, up to 1989, reduced rates to new facilities where electricity represents an important element in their production costs. A 50-percent rebate will be offered for 6 years, to be followed by lower rebates for up to 4 more years. Among the beneficiaries of the program will be Corporation Falconbridge's new Lac Shortt property which will be an all-electric mine, and Pechiney Ugine Kuhlman's new aluminum smelter at Bécancour.

The parliamentary committee on Schefferville held two meetings, one in May and one in November, to consider socio-economic issues and strategies for preserving employment in the area and for promoting recovery in the iron ore industry.

Regulation of the Mineral Industry

In 1982, the MER began administering the act (Bill 59) repealing the mineral rights of surface owners who had acquired land before 1880; most of these were in the Eastern Townships. In May of 1983, the Ministry commenced a system of Special Exploration Permits (permis spéciaux d'exploration) for mineral exploration in an area of about 20,000 acres affected by Bill 59, mainly in Estrie.

An agreement in principle was signed in June by the Quebec government and Pechiney Ugine Kuhlmann of France to proceed with construction of its new aluminum smelter at Becancour.

Taxation Matters Affecting the Industry

Corporation Income Taxes

The effective corporation income tax rate for large companies engaged in mining or mineral processing, prospecting, exploring or drilling for minerals in Quebec was reduced from 8 percent to 5.5 percent on 1 January 1983. This followed the previous year's reduction from 13 percent to 8 percent. In addition, the provincial budget brought down by Finance Minister Parizeau in May 1983 announced several changes in the tax regime which will benefit the mineral industry. Quebec has adopted the new provisions, announced in the April 1983 federal budget, which permit the deduction of earned depletion for eligible exploration expenditures incurred after 19 April 1983 from income from all sources in Quebec, up to a maximum of 33.3 percent of

such income, not just from resource profits. However, an individual who elects to take the additional 66.6 percent deduction for exploration expenditures incurred in Quebec after 19 April 1983 will not be eligible for earned depletion.

A refundable tax credit of 10 percent of total wages paid in Quebec in respect of research and development by corporations in the private sector took effect on 10 May 1983.

In respect of losses sustained during a tax year ending after 10 May 1983, the limit on the refundable tax credit (of three percent of the loss) allowed in respect of business losses was to be increased to 300 percent of the company's tax on capital from 100 percent. The five-year carry forward period in respect of unused tax credits for losses was increased to seven years.

New rules respecting non-capital losses and net capital losses announced in the April federal budget were paralleled in Quebec and will apply on the same dates and for the same purposes as in the federal legislation.

Mining Taxation

Quebec imposes a graduated tax on all profits from mining operations in excess of $250,000. Under the Mining Duties Act, tax rates rise from 15 percent to a maximum of 30 percent on profits over $2.25 million. The province also offers fiscal incentives for exploration and processing of ore in Quebec.

Fees and conditions for leases and licences are prescribed by the Mining Act.

Retail Sales Tax

An exemption began in May from the 9-percent retail sales tax on all rolling stock used for production and transportation within mining properties.

10. NEW BRUNSWICK

Introduction

New production of salt, potash, and tungsten contributed to the overall increase of 3 percent in the value of mineral production over the year, and a number of new developments coming on stream promise a further improvement. However, the mineral sector in New Brunswick continued to operate below potential in 1983, depressed by low prices for key metals and other minerals. Temporary closures were reported at Consolidated Durham (now Durham Resources Inc.), at Heath Steele (underground) and at Canada Cement. Zinc prices have improved; however, not enough to save Brunswick Mining and Smelting's proposed $360-million Belledune smelter from being shelved temporarily. The project will be reviewed periodically. Gold and silver prices remained steady, and, although exploration levels fell overall, gold saw an increase in exploration activity.

Potash is expected to be a future leader for the province. The $210-million Sussex mine of the Potash Corporation of America began production at the end of the year; development work began on a mine owned by Denison; and BP Resources is planning a mine in the Sussex area as well. Prices for this mineral are expected to improve from the level of about $100 (U.S.) per ton which closed the year, down considerably from the 1980-81 levels of over U.S. $155 per ton.

Assistance to the Mineral Industry

As part of a federal-provincial subsidiary agreement signed in September 1983, the provincial government and the federal government will contribute up to $3.75 million and $15 million respectively towards the development of a 10-tpd pilot plant facility for mineral research in Chatham, New Brunswick. This new facility will focus on the testing and further development of a new process, developed by the New Brunswick Research and Productivity Council, to recover a higher percentage of metals from concentrates obtained from local ores.

The New Brunswick Power Commission signed a long-term contract with Saskatchewan Mining Development Corporation to supply all of the uranium requirements for New Brunswick Point Lepreau reactor. The volume is estimated at 80 tonnes per year.

Taxation Matters Affecting the Industry

Corporation Income Taxes

The corporation income tax rates remained unchanged in New Brunswick in 1983, at 14 percent for large corporations and 9 percent for small business.

Mining Taxation

The Metallic Minerals Tax Act taxes mine operators at a rate of 2 percent of net mining revenue. In addition to this 2-percent royalty, operators with annual net profits over $100,000 pay a tax of 16 percent of profits. Eligible exploration expenses can be deducted at the rate of $1.50 for every $1 spent. A number of nonmetallic minerals are exempted from the provisions of this act.

The Mining Act also establishes royalties, but they are not effective against income already taxed under the Metallic Minerals Tax Act.

Taxation of the mineral industry was under review in 1983, and although changes were introduced in 1984, they were subsequently withdrawn for further consideration.

11. NOVA SCOTIA

Introduction

Despite the constraints on demand and prices that troubled most of the country, the value of mineral production in Nova Scotia increased slightly in 1983. Coal remained the leading mineral commodity, accounting for about 60 percent of total value and about 75 percent of mining-related employment.

Gypsum production increased 25 percent, and aggregates about 40 percent. The production of Nova Scotia barite for off-shore drilling mud use increased threefold from 1982, and the market holds considerable potential for further increases. Salt production fell, in part in response to competition from new mines in New Brunswick and Quebec.

Assistance to the Mineral Industry

The Nova Scotia Department of Mines and Energy held its annual open house and review of activities on November 30 to December 1. It provided a review of the results of the province's geological work and an update on the status of exploration for minerals, coal, oil and gas. The regular program was supplemented by a special symposium on gold, which presented the results of a two-year study on the former gold-producing formations in the province. This study was funded under a Canada-Nova Scotia cooperative minerals agreement.

Nova Scotia's Power Corporation is continuing to use the province's thermal coal reserves to reduce oil consumption. Coal-fired generating stations, particularly the 450-megawatt Lingan station, have replaced oil-fired units and have, in the past two years, resulted in a 50-percent reduction in oil consumption. New units at Lingan are coming on stream to further reduce oil-fired generation to less than 20 percent by 1985.

Regulation of the Mineral Industry

Pentum Mining and Development was issued a special 18-month license by the Minister of Mines and Energy to carry out underground testing at Springhill. This will allow Pentum to continue investigation of the potential for

developing an underground mine at the Rodney Seam box-cut recently completed by Novaco Limited, the provincial Crown corporation with responsibility for investigating surface coal mining opportunities.

Taxation Matters Affecting the Industry

Corporation Income Tax

Corporation income taxes in Nova Scotia remained at 15 percent in 1983, with small businesses taxed at 10 percent.

Mining Taxation

The Gypsum Mining Income Tax Act sets a rate of 33.3 percent payable on income over $5,000 from gypsum extraction or production. Alternatively, a rate of 18 cents per tonne mined may be used. In addition, higher rates may be set by order-in-council.

For minerals other than gypsum, royalties ae prescribed under the Mineral Resources Act. Rebates are provided for several nonmetallic minerals, on the condition that they are processed in the province. However, if unrefined minerals are shipped out of the province, Cabinet may impose up to three times the normal royalty. The royalty rates and method of calculation vary from mineral to mineral, and include 25 cents per short ton for coal, 12 cents per short ton for barite, 1 percent of net value for gold and silver, and 2 percent for limestone.

Fees and conditions for licences and leases are also established by the Mineral Resources Act.

12. NEWFOUNDLAND AND LABRADOR

Introduction

Reopenings and expansions at Newfoundland's smaller mines during the latter part of the year plus a small improvement in the province's key iron ore industry resulted in a 7-percent increase in the total value of Newfoundland mineral production, from the 1982 total of $646.7 million to $690.4 million in 1983. However, both years were well below the peak years 1979-81, when the value of production exceeded $1 billion annually. Direct employment in the mining industry decreased by almost 3,000 over 1982-83, from a high of almost 7000 in 1981.

The Iron Ore Company of Canada alone has laid off close to 1,200 workers since mid-1982, and is presently operating at less than half capacity. Wabush Mines, the province's other iron ore producer, increased production over 1982 levels but was still at two thirds of 1981 levels. More encouraging was Transpacific Asbestos' Baie Verte asbestos mine and mill, which reopened in 1982 with financial assistance from the provincial and federal governments, and in September of 1983 added 70 jobs for a total of 300. Rising zinc prices enabled Asarco Inc. to push the reopening of its Buchans copper-lead-zinc mine ahead to June, providing 125 jobs. Also benefiting from improved zinc prices was Newfoundland Zinc Mines at Daniel Harbour, where 200 workers are employed. Production of gypsum at Flintkote Mines Flat Bay property, with a workforce of 90, increased by about 40 percent from 1982. At year's end, the provincial government was considering a proposal from Minworth Ltd. of the United Kingdom for the redevelopment of the St. Lawrence fluorspar mine, closed by Alcan in 1977, which employed 400 at peak production.

Regulation

Several amendments to the Newfoundland Mineral Act were passed on 31 May 1983. The main points of the amendments are:

i areas with private surface rights can now be staked without prior permission from the landowner; the explorer still has to get permission to enter the property to conduct exploration work;

ii the Mines Department can now provide confidential storage of diamond drill core;

iii owners of out-of-production mines who have had their mineral rights revert to the Crown are not entitled to any compensation;

iv costs of reconnaissance, regional, or airborne surveys conducted within the twelve-month period prior to acquisition of ground staked licences within the bounds of the surveyed area can now be applied in full against the licence, or to 100 percent of the first year requirements of such licences, whichever is the lesser.

Significant amendments to the Mineral Regulations affected the disposition of mineral rights in Labrador. Effective 2 August 1983, mineral rights in Labrador could be obtained by map staking or obtaining reserved area licences, instead of the more costly ground staking of claims. A consolidation of the Mineral Act and copies of Mineral Regulations under the act are available from the Ministry.

In December 1983, the Brinco Principal Agreement, a statutory agreement, was amended to allow Brinco Mining Co. to take out licences under The Mineral Act for areas covered by the concession agreement. Brinco may stake the areas as claims under The Mineral Act during 1984 and as extended licences during 1985. The agreement expires 25 September 1985. In return for these amendments, Brinco surrendered large areas of the concession before the end of 1983 and will surrender more in 1984.

Taxation Matters Affecting the Industry

Corporation Income Taxes

Corporate income taxes in Newfoundland were 16 percent for large corporations and 12 percent for small businesses. The rates were unchanged from 1982.

Mining Taxation

Under the Mining and Mineral Rights Tax Act, mining operations are taxed at the rate of 15 percent on income derived from mining. In addition, a mineral rights tax of 20 percent is imposed on revenue received by landlords from mining operations leased to third parties.

The Mineral Holdings Impost Act levies a tax on mineral holdings which is designed to encourage mineral ex-

ploration and development. The rate is $3.00 per hectare per year, and it may be reduced for Crown rentals paid and for eligible exploration and predevelopment expenditures.

13. NORTHWEST TERRITORIES

Introduction

Despite generally depressed world metals markets, and some closures, the value of mineral production in the NWT increased by 11.5 percent from 1982 levels.[4] Benefiting from a rise in the price of zinc were the Nanisivik mine on Baffin Island, Cominco's Polaris mine on Little Cornwallis Island, and the Pine Point mine at Great Slave Lake, although Pine Point was closed for the first half of the year. The Cantung mine at Tungsten closed in January of 1983, but reopened late in the year, and production was expected to resume in early 1984. Major factors in the two reopenings were significant improvements in management/labour/government cooperation and in cost control. A steady price for gold kept all of the existing gold mines in operation and saw the opening of a new one, Salmita, late in the year.

Exploration activity for all minerals dropped 20 percent from the $25 million of 1982, which in turn was down sharply from $55 million in 1981. Delineation of uranium deposits in the Baker Lake area continued, with a Korean firm, Daewoo Corporation, joining the joint venture led by Urangesellschaft, at the Lone Gull deposit.

The federal department of Indian Affairs and Northern Development (DIAND) is responsible for the overall administration of all mining and mineral activities in the NWT, and for coordination of other federal department activities. For mineral policy initiatives introduced by DIAND and other federal initiatives affecting mining in the territories, see chapter 3 on federal government activities.

The Government of the Northwest Territories (GNWT) advises DIAND on matters of mineral policy and on the review, approval and monitoring of individual resource development projects. It also administers the various territorial regulations and ordinances as well as the Mining Safety Ordinance.

In a 1983 document titled Priorities, the Government of the Northwest Territories noted its lack of jurisdiction over

---

4. Energy, Mines and Resources, Canadian Mineral Survey 1983, p. 19. However, preliminary figures from the GNWT Mining Inspection Services showed a decrease of 12.7 percent (in the metal content of concentrates). This discrepancy had not been resolved at the time of printing.

control of nonrenewable resource development, but indicated its intention to ensure that decisions in this area are at least subject to scrutiny by northern residents, and that NWT review processes are integrated as far as possible with those of the federal government. The report stated that: 'The government's challenge will be to reduce the adverse impacts of resource development while at the same time ensuring resident employment and income opportunities'.

Assistance to the Mineral Industry

Pine Point Mine Ltd. resumed operations in mid-1983, after low metal prices and high costs had led to a shut-down on 2 January 1983. The government of the NWT contributed a supplementary payment to employees qualifying for federal job assistance for development and exploration work.

14. YUKON TERRITORY

Introduction

The mineral industry in the Yukon experienced a second disastrous year in a row in 1983. Value of output fell from $169 million in 1982 to only $59 million. Placer mining accounted for 85 percent of the value of mineral production over the year, and more than half of the employment in mining. Total employment in the industry averaged about 500 people, or about 10 percent of the territorial work force, down from about 1,300 people or close to 20 percent of the workforce two years ago. Exploration activity for the year was down to about $12 million, compared with $48 million in 1981.

Of the three principal mines in the territory, the Whitehorse copper mine of Hudson Bay Mining and Smelting is closed permanently because of ore depletion, the Elsa lead-zinc mine of United Keno Hill re-opened in June 1983 with only 59 percent of its former work force, and Dome's Cyprus Anvil lead-zinc mine was still not in production by the end of 1983, although advanced stripping began in July. Both United Keno Hill and Cyprus Anvil anticipate significant improvement in their competitive position as a result of the management/labour/government negotiations that facilitated their reopening.

As in the case with the NWT, responsibility for the overall administration of mining and mineral activities rests primarily with DIAND. Federal initiatives are included in chapter 3.

Assistance to the Mineral Industry

The Yukon government agreed to make a special contribution of $1 million, in the form of a wage subsidy, to assist in the reopening of Dome Petroleum Ltd's Cyprus Anvil Mining Corporation lead-zinc mine at Faro. About 244 of the 600 laid-off workers have been rehired under a $50-million assistance program whose funding comes from equal contributions from Dome and government. The government's $25-million share is financed by UIC section 38 and NEED programs ($3.4 million), the Yukon government's $1 million, plus a $19.6-million interest-free federal loan.

Regulation of the Mineral Industry

In August the Yukon Government presented a statement of its position on the regulation of placer mining in the territory to the Yukon Placer Mining Guidelines Public Review Committee. The committee is taking a broad look at the placer mining industry in the Yukon, which will lead to revisions to environmental aspects of the federal government's Yukon Placer Mining Regulations as well as other federal legislation and regulations such as the Northern Inland Waters Act.

The Yukon brief supported the federally-proposed principle of multiple resource management as the basis for regulation of placer mining, but criticized the federal concentration on fisheries in its impact evaluations, as well as federal proposals for changes in the mandate and operations of the Water Board. In supporting a single window for regulation of the industry, the Yukon government also called for provision for its own responsibilities for wildlife management, parks and outdoor recreation, and suggested that the most appropriate federal department to manage placer mining in the territory, for the present at least, would be the Department of Energy, Mines and Resources.

PRINCIPAL WRITTEN SOURCES

The Canadian Mineral Industry Monthly Report, Department of Energy, Mines and Resources, Ottawa.

Canadian Mining Journal, Southam Business Publications, 1450 Don Mills Road, Don Mills, Ontario (monthly).

Canadian Mining Taxation, Price Waterhouse, Toronto, 1983.

Canadian Tax Journal, Canadian Tax Foundation, 130 Adelaide Street West, P.O. Box 6, Toronto, Ontario M5H 3P5 (bi-monthly).

CIM Bulletin, The Canadian Institute of Mining and Metallurgy, 400-1130 Sherbrooke Street West, Montreal, Quebec H3A 2M8 (monthly).

Coal Focus, The Coal Association of Canada, Suite 301, 1000 Eighth Avenue S.W., Calgary, Alberta T2P 3M7 (monthly).

Financial Post, 777 Bay Street, Toronto M5W 1A7 (weekly).

The Globe and Mail, 44 Front Street West, Toronto M5V 2S9 (daily).

The Inco Clipper, Inco Limited's internal clipping service.

Mining Magazine, The Mining Journal Limited, 15 Wilson Street, London EC2M 2TR, England (monthly).

The Northern Miner, 7 Labatt Avenue, Toronto, Ontario M5A 3P2 (weekly).

The PDA Recorder, Canadian Mining Journal, Southam Business Publications, 1450 Don Mills Road, Don Mills, Ontario (eight times a year).

Western Miner, Western Miner Press Limited, 1201 Melville Street, Vancouver, British Columbia V6E 2X9 (monthly).

Mining Journal, The Mining Journal Limited, 15 Wilson Street, Moorgate, London EC2M 2TR, England (weekly).

Provincial and Municipal Finances 1983, Canadian Tax Foundation, Toronto, 1983.

Tax Memo: 1983 Tax Developments, Canadian Tax Foundation, Toronto, March 1984.

General - Federal and provincial government press releases, statements, speeches, and publications, etc., and publications, briefs and statements from mining associations and companies.

GOVERNMENT SOURCES FOR FURTHER INFORMATION

Federal Departments

Department of Energy, Mines and Resources

Mineral Policy Sector
580 Booth Street
Ottawa, Ontario K1A 0E4
(613) 995-9466

Canada Centre for Mineral and Energy Technology
(CANMET)
555 Booth Street
Ottawa, Ontario K1A 0G1
(613) 995-4[illegible].9

Department of Indian Affairs and Northern Development
19 Wellington Street, North Tower
Hull, Quebec K1A 0H4

Northern Resources and Economic Planning Branch
(819) 997-9190

Mining Management and Infrastructure Directorate
(819) 997-9828

Employment and Immigration Canada
Manpower Planning, Mining
Place du Portage, Phase IV
140 Promenade du Portage
Hull, Quebec K1A 0J9
(819) 994-6701

Department of Regional Industrial Expansion
Metals and Minerals Processing Division
235 Queen Street
Ottawa, Ontario K1A 0H5
(613) 992-5672

Environment Canada

Federal Environmental Assessment Review Office
Fontaine Building
Ottawa, Ontario K1A 0H3
(613) 997-1000

Environmental Protection Service
Les Terraces de la Chaudière
Hull, Quebec K1A 0H3
(819) 997-1575

Department of Finance
Tax Analysis, Energy and Mining
Place Bell Canada
160 Elgin Street
Ottawa, Ontario K1A 0G5
(613) 992-4836

Labour Canada
Occupational Safety and Health
Ottawa, Ontario K1A 0J2
(613) 997-3520

Federal Crown Corporations and Agencies

Atomic Energy Control Board
Martel Building
270 Albert Street
P.O. Box 1046
Ottawa, Ontario K1P 5S9
(613) 995-6941

Atomic Energy of Canada Ltd.
Standard Life Building
275 Slater Street
Ottawa, Ontario K1A 0S4
(613) 237-3270

Cape Breton Development Corporation
P.O. Box 1330
Sydney, Nova Scotia B1P 6K3
(902) 539-5910

Eldorado Nuclear Ltd.
255 Albert Street, Suite 400
Ottawa, Ontario K1P 6A9
(613) 238-5222

Export Development Corporation
110 O'Connor Street
P.O. Box 655
Ottawa, Ontario K1P 5T9
(613) 237-2570

Foreign Investment Review Agency
240 Sparks Street
Ottawa, Ontario K1P 6A5
(613) 995-9449

National Harbours Board (Ports Canada)
320 Queen Street, Tower A
Place de Ville
Ottawa, Ontario K1A 0N6
(613) 996-6400

Provincial Government Departments and Agencies

British Columbia

Ministry of Energy, Mines and Petroleum Resources
Mineral Resources Division
617 Government Street
Victoria, British Columbia V8V 1X4
(604) 387-6242

B.C. Hydro and Power Authority
970 Burrard Street
Vancouver, British Columbia V6Z 1Y3
(604) 663-2212

Ministry of Finance
Economics and Policy Division
Parliament Buildings
Victoria, British Columbia V8V 1X4
(604) 384-4434

Alberta

Department of Energy and Natural Resources
Mineral Resources Division
9915 - 108th Street
Edmonton, Alberta T5K 2C9
(403) 427-2739

Saskatchewan

Department of Energy and Mines
Toronto Dominion Bank Building
1914 Hamilton Street
Regina, Saskatchewan S4P 4V4
(306) 565-2526

Department of Labour
Toronto-Dominion Bank Building
1914 Hamilton Street
Regina, Saskatchewan S4P 4V4
(306) 565-2429

Environment Saskatchewan
1855 Victoria Avenue
Regina, Saskatchewan S4P 3V5
(306) 565-6113

Potash Corporation of Saskatchewan
410 - 22nd Street East
Saskatoon, Saskatchewan S7K 5T7
(306) 664-5530

Saskatchewan Minerals
Chaplin, Saskatchewan S0H 0V0
(306) 395-2561

Saskatchewan Mining Development Corporation
122 - 3rd Avenue North
Saskatoon, Saskatchewan S7K 2H6
(306) 664-5000

Manitoba

Department of Energy and Mines
Mineral Resources Division
555 - 330 Graham Avenue
Winnipeg, Manitoba R3C 4E3
(204) 945-6580

Manitoba Mineral Resources Ltd.
603 - 491 Portage Avenue
Winnipeg, Manitoba R3B 2E4
(204) 786-7419

Department of Finance
Taxation Division
103 Legislative Building
Winnipeg, Manitoba R3C 0V8
(204) 944-3761

Ontario

Ministry of Natural Resources
Mineral Resources Group
Whitney Block, Parliament Buildings
Toronto, Ontario M7A 1W3
(416) 965-4271

Royal Commission on Asbestos
180 Dundas Street West
Toronto, Ontario M5G 1Z8
(416) 965-1743

Ministry of Treasury and Economics
Frost Building South
Queen's Park
Toronto, Ontario M7A 1Y7
(416) 965-7171

Quebec

Ministère de l'Energie et des Ressources
Direction de la Politique et de l'Evaluation
1620 Boul. de l'Entente
Québec, Québec G1H 6R3
(418) 643-4617

Société Québécoise d'Exploration Minière
(SOQUEM)
3108 chemin Ste-Foy
Sainte Foy, Québec G1X 1P8
(418) 658-5400

Société Nationale de l'Amiante
850 Boul. Ouellet Ouest
Thetford Mines, Québec 6G6 7A5
(418) 338-0131

Ministère des Finances
1025 St. Augustin
Québec, Québec G1R 4Z6
(418) 643-4426

New Brunswick

Department of Natural Resources
Mineral Resources Division
P.O. Box 6000
Fredericton, New Brunswick E3B 5H1
(506) 453-2206

Nova Scotia

Department of Mines and Energy
Sir Joseph Howe Building
P.O. Box 1087
Halifax, Nova Scotia B3J 2X1
(902) 424-4161

Nova Scotia Resources Ltd.
1809 Barrington Street
Halifax, Nova Scotia B3J 3K8
(902) 429-2860

Novaco Ltd.
P.O. Box 147
Sydney Mines, Nova Scotia B1V 1Y3
(902) 736-6268

Newfoundland

Department of Mines and Energy
P.O. Box 4750
St. John's, Newfoundland A1C 5T7
(709) 737-2768

Northwest Territories

Energy, Mines and Resources Secretariat
Government of the Northwest Territories
Yellowknife, Northwest Territories X1A 2L9
(403) 873-7224

Yukon Territory

Economic Research and Planning Branch
Department of Tourism and Economic Development
Government of the Yukon Territory
Box 2703
Whitehorse, Yukon Territory Y1A 2C6
(403) 667-5470

THE AUTHOR

Margot Wojciechowski has a B.A. in Political Science and Economics from the University of Toronto (1958) and an M.A. in Political Studies from Queen's University (1970). Her professional experience includes three years as an economist with the Dominion Bureau of Statistics, and several research positions in the field of public administration. She is now assistant director of the Centre for Resource Studies at Kingston.

THE CENTRE FOR RESOURCE STUDIES

The Centre for Resource Studies (CRS) was established in 1973, under the sponsorship of Queen's University, the federal Department of Energy, Mines and Resources, and The Mining Association of Canada, to carry out a program of research and publication on mineral policy issues.

The Centre provides opportunities for multidisciplinary research in resource studies at Canadian universities, furnishes reliable information on matters related to mineral resource policy, and promotes closer liaison between government, industry and other concerned groups. The research program is carried out both at the Centre and by means of contracts with qualified investigators, usually at Canadian universities. Small exploratory studies are also funded, through a system of grants-in-aid of research. CRS Seminars involve representatives from governments, industry, universities, labour, and other interested groups in working sessions on issues of current concern. Through this program of research and seminars, and the resulting publications, the Centre contributes to informed discussions and a better understanding of significant issues.

The Centre is governed by a board of directors which establishes general policy and priorities for research. The board has sixteen members, appointed by Queen's University, The Mining Association of Canada, and the federal government. Guidance on the research program, together with discussion of policy issues and other matters, is provided by the Advisory Council. This body comprises all researchers associated with the Centre, together with members appointed from such groups as governments, industry, labour, and other interests. A Research Advisory Committee aids in the development of projects and the selection of research proposals. The executive director and staff are responsible for the work of the Centre within this framework.

Most of the funding for the Centre's activities is provided by two of the sponsors, EMR and MAC. In addition, the Centre accepts contracts from other organizations interested in mineral policy research.

The Centre welcomes comments on its publications, proposals for research projects or for publication, or enquiries about any aspect of its work. For further information, contact:

Centre for Resource Studies
Queen's University
Kingston, Ontario, Canada K7L 3N6
(613) 547-5957

CRS PUBLICATIONS

Monographs and Collections

Conflict and its Resolution in the Administration of Mineral Resources in Canada, by R.M. Burns; 62 pages, 11 tables. Published 1976.

The Impact of the Mining Industries on the Canadian Economy, by R.W. Boadway and J.M. Treddenick; 116 pages, 15 tables. Published 1977.

The Transportation Impact of the Canadian Mining Industry, by A.I. Wallace; 154 pages, 17 tables. Published 1977.

Human Resources in Canadian Mining: A Preliminary Analysis, by J.A. MacMillan, G.S. Gislason, and S. Lyon; 174 pages, 48 tables. Published 1977.

Health and Safety in the Canadian Mining Industry, by G.W. Gibbs and P. Pintus; 248 pages, 58 tables. Published 1978.

The Canadian Nonferrous Metals Industry: An Industrial Organization Study, by E. Urquhart; 158 pages, 18 tables. Published 1978.

Economic Impacts and Linkages of the Canadian Mining Industry, by P.E. Nickel et al.; 140 pages, 31 tables. Published 1978.

Environmental Impact of Mining in Canada, by E.A. Ripley et al.; 274 pages, 45 tables. Published 1978, reprinted 1982.

Effects of Taxation on Base Metal Mining in Canada, by B.W. Mackenzie and M.L. Bilodeau; 188 pages, 29 tables. Published 1979.

Gold: The World Industry and Canadian Corporate Strategy, by E. Cousineau and P.R. Richardson; 192 pages, 32 tables. Published 1980.

The Impact of Policy Change on Decisions in the Mineral Industry: The Case of Exploration in Manitoba, 1969-77, by B.E. Owen and W.J. Kops; 116 pages, 8 tables. Published 1980.

The Role of Mineral Taxation in Industry/Government Conflict: The Case of the Saskatchewan Potash Reserve Tax, by David L. Anderson; 135 pages, 41 tables, 2 illustrations. Published 1981.

Profitability in the Canadian Mineral Industry, by Charles H. Pye; 178 pages, 42 tables, 12 illustrations. Published 1981.

Foreign Investment Control in the Canadian Mineral Sector: Lessons from the Australian Experience, by David L. Anderson; 180 pages, 22 tables. Published 1983.

Financing Canadian Mining in the Eighties: Strategies for Action, edited by David Yudelman; with papers by E. Bradley, A. Dorland, J. Erola, P. Gillin, P. Glenshaw, S. Greenwald, B. Kalymon, P. MacCulloch, B. Mackenzie, K. Murphy, A. Powis, R. Sultan, and D. Yudelman; 240 pages. Published 1984.

Proceedings

No. 1 Rate-of-Return Taxation of Minerals, with papers by B.W. Mackenzie and M.L. Bilodeau, P.M.T. White, N.D. Olewiler, J.T. Cawley, and E.P. Gush; 109 pages. Published 1978.

No. 2 International Competition and the Canadian Mineral Industries, with papers by H.C. Armstrong, H.T. Fargey, C.G. Miller, N.D. Olewiler and P.R. Richardson, D. Perlstein, and K.C. Hendrick; 109 pages. Published 1978.

No. 3 Current Concerns in Mineral Policy, with papers by C.R. Archibald, W.J. Barbour, D.B. Brooks, J.S. Dowsett, J.M. Fleming, and G.A. Jewett; 75 pages. Published 1978.

No. 4 Canada's Mineral Trade: Implications for the Balance of Payments and Economic Development, with papers by B.W. Wilkinson, D.J. McCulla, J.G. MacKinnon, A.G. Balogh, and W.G. Chambers and J.S. Reid; 113 pages. Published 1978.

No. 5 Employee Relations Initiatives in Canadian Mining, with papers by W.J. Bennett, F.R. Nogas and J.F. Fulcher, W.F. Clarke, S.B. Jones, T.F. Cawsey and P.R. Richardson, and P. Warrian; 85 pages. Published 1979.

No. 6 Junior Mining in Canada: The Problem of Investment and Securing Fair Returns, with papers by A.J. Freyman, B.A. Kalymon, J.D. Mason, D.W. Scrim, E.H. Neave and P.R. Richardson, and E.G. Thompson; 101 pages. Published 1979.

No. 7 The Future for Junior Mining in Canada, with papers by Hon. J.A.C. Auld, J.L.C. Lyndon, N.B. Keevil Jr., D.G.C. Menzel, H.T. Fargey, A.J. Freyman, Hon. R. Hnatyshyn, J.C. Baillie, D.W. Scrim, J.P. Bunting, E.H. Neave and P.R. Richardson, L.A. English, M. St-B Harrison, R.H. Grasley, and Hon. F. Drea; 125 pages. Published 1979.

No. 8 Mining-Linked Diversification of the Sudbury Basin Economy, with papers by D.C. Frith, J.P. Reny, A.I. Wallace, J.H. Holtby and L.C. Kitchener, 53 pages. Published 1980.

No. 9 The Changing Structure of the Canadian Mineral Industry, with papers by I.A. Stewart, R.F. Mikesell, R. Simeon, R. Keyes and J.M. MacLeod; 105 pages. Published 1980.

No. 10 Northern Mining in the 80s, with papers by Hon. G. Braden, R.J. Cathro, D. MacKinnon, J. Smith, R.W. Stephenson, B.E. Novak, E.N. Doyle, J.R. Witty, J.E. Marshall, A.G. Gordon, J. McCormack, H.B. Hicks, J. Zigarlick, T. Shearcroft, W. Kupsch, J. Stabler, and Hon. J. Erola, 110 pages. Published 1980.

No. 11 Skilled Manpower Shortages in the 1980s: Towards a Cooperative Solution, with papers by R.J. Gray, J.S. Reid, W.H. Digby, J.B. Hopkinson, A. Knoll, O. Tremblay, G. Betcherman, P.E. Womersley, M.J. Alton, V.C. Allman, C. Stairs, E.J. Weiss, and W.E. McBride; 116 pages. Published 1981.

No. 12 Acid Rain Controls and the Economics of the Canadian Nonferrous Mineral Industry, with papers by J. Gerin, W.G. Deeks, P.R. Clarke, J.B. Hyne, H.T. Fargey, B.W. Mackenzie, and E.J. Ward; 90 pages. Published 1982.

No. 13 Mineral Policy Formulation: The Role of Scientific and Technical Knowledge, with papers by G.A. Jewett, H.D. Drechsler, P.G. Halkett, D.E. Bond, D.C. Findlay, W.G. Jeffery, L.G. Bonar, D.W. Davis, and J. Zwartendyk; 135 pages. Published 1982.

No. 14 Mining Communities: Hard Lessons for the Future, with papers by I. Haugh, R.P. Douglas, R. MacDonald, D. Brown, R.D. Glass, J. Lazarovich, W. Mulvihill, D. DePape, G. Paget, B. Walisser, and R. Roberts; 211 pages. Published 1984.

No. 15 Native Participation in Mineral Development Activities, with papers by A. Clark and M. Lalande, K.A. Graham, B.W. Mackenzie, C.D. Hunt, J.L. Blais, F.R. Joubin, and E. Laliberte; 105 pages. Published 1984.

Working Papers

No. 3 Provincial Mineral Policies: Newfoundland, 1949-75, by M.J. Prince, 67 pages, 7 tables. Published 1977.

No. 6 Provincial Mineral Policies: Saskatchewan, 1945-75, by R.C. Murray; 64 pages. Published 1978.

No. 8 Federal Mineral Policies: 1945-75, by M.J. Wojciechowski; 85 pages, 21 tables. Published 1979.

No. 9 Trends in Canada's Mineral Trade, by B.W. Wilkinson, 63 pages, 27 tables. Published 1978.

No. 10 Canada as a World Zinc Producer: Prospects to 1980, by N.D. Olewiler, P.R. Richardson, and L. Rumble, 22 pages, 12 tables. Published 1978.

No. 11 A Survey of Resources and a Production Cycle for the Nonferrous Metals, by C. Lafkas and J.G. Paterson, 34 pages, 9 tables. Published 1978.

No. 12 Solar Energy and the Canadian Mining Sector: A Demand Forecast, by J.S. Shewchun and D.B. Curtis; 45 pages, 14 tables. Published 1978.

No. 13 Cerro Colorado: A Case Study of the Role of Canadian Crown Corporations in Foreign Mineral Development, by C.G. Miller, N.D. Olewiler, and P.R. Richardson; 44 pages, 5 tables. Published 1979.

No. 14 The Administration of Mineral Exploration in the Yukon and Northwest Territories, by K.A. Graham, R.G. McEachern and C.G. Miller; 42 pages. Published 1979.

No. 15 Public Policy Aspects of Information Exchange in Canadian Mineral Exploration, by D.O. Downing and B.W. Mackenzie, 52 pages. Published 1979.

No. 16 Canada's Competitive Position in Copper and Zinc Markets, by B.W. Mackenzie; 41 pages, 21 tables. Published 1979.

No. 17 Constitutional Change and the Mineral Industry in Canada, by Wendy MacDonald; 66 pages. Published 1979.

No. 18 An Economic Analysis of the Canadian Taxation of an Integrated Mining Company, by Jean-Thomas Bernard; 112 pages. Published 1980.

No. 19 Looking for the Improbable Needle in a Haystack: The Economics of Base Metal Exploration in Canada, by B.W. Mackenzie, 48 pages. Published 1980.

No. 20 The Market Price of Risk in the Canadian Mining Industry, by H.F. Campbell, 29 pages. Published 1980.

No. 21 Public Affairs and the Minerals Industry: Junior Mining; Northern Development; Loans for Foreign Mines; A Public Relations Strategy, by C.G. Miller; 42 pages. Published 1980.

No. 22 Newfoundland Mining Industry: Present Status and Potential for Expansion, by N.D. Olewiler and C.H. Pye; 208 pages, 83 tables. Published 1980.

No. 23 Effects of Water Pollution Control Costs on Base Metal Mining in Canada, by N.A. Papanicolaou and B.W. Mackenzie; 74 pages. Published 1981.

No. 24 The Costs of Uncertainty: Regulating Health and Safety in the Canadian Uranium Industry, by I. Robinson; 74 pages, 3 illustrations. Published 1982.

No. 25 Economic Guidelines for Small Mineral Deposits/ Directives économiques relatives aux petits gisements, by B.W. Mackenzie and M.L. Bilodeau; 66 pages, 12 tables, 14 illustrations. Published 1982.

No. 26 Effects of Public Policy on Investment Demand: The Case of Taxation in Canadian Base Metal Mining, by B.W. Mackenzie and C.H. Pye; 58 pages, 17 tables, 11 illustrations. Published 1982.

No. 27 The Prospects for Canadian Uranium, by S. Salaff; 50 pages, 9 tables. Published 1983.

No. 28 Economic Mineral Exploration Targets, by B.W. Mackenzie; 72 pages, 3 tables, 19 illustrations. Published 1984.

No. 29 Dominant Government Firms in an Oligopolistic Industry: The Case of Saskatchewan Potash, by F. Flatters and N. Olewiler; 43 pages, 3 tables. Published 1984.

No. 30 Canadian Mineral Policy Formulation: A Case Study of the Adversarial Process, by D. Yudelman; 83 pages. Published 1984.

No. 31 Federal Policy and the Role of Public Enterprise in the Mining Sector, by M.J. Prince and G.B. Doern; 52 pages, 2 tables. Published 1984.

No. 32 Productivity and Price: The Case of Gold Mining in Ontario, by A.G. Green; 54 pages, 5 tables, 2 illustrations. Published 1984.

Technical Papers

No. 1 Financing and Stabilization Policies in a Cyclical Industry: The Case of Inco in the Seventies, by W.T. Cannon; 200 pages, 33 tables, 12 illustrations. Published 1981.

No. 2 Economic Effects of Smelter Controls on the Canadian Nonferrous Mining Industry, by B.W. Mackenzie and M.L. Bilodeau; 162 pages, 44 tables, 16 illustrations. Published 1982.

No. 3 Secondary Supply of Copper and Ferrous Metals and Canadian Metal Markets, by K. Stollery; 138 pages, 24 tables, 16 illustrations. Published 1983.

Mineral Policy Updates

Mineral Policy Update 1981, by Margot J. Wojciechowski and C.E. McMurray; 85 pages. Published 1983.

Mineral Policy Update 1982, by Margot J. Wojciechowski and C.E. McMurray; 88 pages. Published 1983.

Mineral Policy Update 1983, by Margot J. Wojciechowski; 88 pages. Published 1984.

Eastern Arctic Study
(Published jointly by the Centre for Resource Studies and the Institute of Local Government)

The Inuit Land Claim, Constitutional Development, and Local Government Reform in the Northwest Territories: An Overview, by Katherine A. Graham and Anne B. McAllister, 50 pages, published 1981.

Industrial Development in the Eastern Arctic Study Area: A Preliminary Overview, by C. George Miller, 31 pages, published 1981.

Eastern Arctic Study Case Study Series: The Alaska Native Claims Settlement, by David Baker, 100 pages, published 1982.

Eastern Arctic Study Case Study Series: Mineral Exploration in the Baker Lake Area, by Anne B. McAllister, 58 pages, published 1982.

Eastern Arctic Study Case Study Series: The Development of the Polaris Mine, by Katherine A. Graham, 61 pages, published 1982.

Eastern Arctic Study Case Study Series: The Nanisivik Mine, by Margot J. Wojciechowski, 62 pages, published 1982.

Eastern Arctic Study Annotated Bibliography, by M.P. Sharon Brown, 68 pages, published 1984.

A Climate for Change: Alternatives for the Central and Eastern Arctic, by Katherine A. Graham, M.P. Sharon Brown, Anne B. McAllister, and Margot J. Wojciechowski, Final Report of the Eastern Arctic Study, 198 pages, published 1984.

POOR

QUALITY

ORIGINAL